

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-01

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Other

☐

Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☒

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/12/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Marion Kelly

Branch/Mail Code:

(Signature)

(Date)

Phone Number 202-566-1045

FAX Number:

Project Officer Name Damon Highsmith

Branch/Mail Code:

(Signature)

(Date)

Phone Number: 202-566-2504

FAX Number:

Other Agency Official Name

Branch/Mail Code:

(Signature)

(Date)

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FAX Number:

Contracting Official Name Robert A. Knecht

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(Date)

Phone Number: 513-487-2043

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Work Assignment 0-01
Contract-level Programmatic Quality Assurance Project Plan
EPA Contract No. EP-C-13-039

Title: Quality Assurance and Confidential Business Information

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Period of Performance: Date of issuance – September 10, 2014

Work Assignment 0-01, Contract-level Programmatic Quality Assurance Project Plan for Economic, Environmental, and Regulatory Analytical and Evaluation Support Water requires the contractor to prepare the Programmatic Quality Assurance Project Plan as required under Clause E requirement at post award of Solicitation CI-13-00012 to assure the quality associated with the Effluent Limitations and Guidelines program, the 304(m) program and other studies requiring economic, environmental regulatory analytical and evaluation technical support.

This document outlines the Quality Assurance/Quality Control (QA/QC) measures that will be conducted by Abt under this contract.

Meetings - To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties.

Limitation of Contractor Activities - The contractor shall submit drafts of all deliverables to the WAM for review prior to submission of the final product. The contractor shall incorporate all WAM comments into all final deliverables, unless otherwise agreed upon by the WAM. The contractor shall adhere to all applicable EPA management control procedures as implemented by the Contracting Officer (CO), Project Officer (PO), and WAM.

Use of Proprietary Software – Use of proprietary software on contract is strongly discouraged, and under no circumstances may be used without prior written approval.

Task 0 – Program Management

The Contractor shall develop a work plan describing the necessary steps and estimated hours to complete each of the tasks included in this work assignment. The work plan shall also include a list of the key personnel to participate in the work assignment. The contractor shall also estimate direct costs such as computer cost, typing, etc.

The Contractor shall prepare and deliver monthly progress reports to the WAM and PO. These reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The contractor shall inform the Contracting Officer, Project Officer, and the Work Assignment Manager in writing when 50%, 75%, and 90% of the allocated hours or dollars have been expended.

TASK 0 – DELIVERABLES	Due Date
Work Plan	In accordance with contract requirements
Progress Reports	Monthly

Task 1 – Development of a Programmatic Quality Assurance Project Plan (Performance Work Statement, Section 3.0)

Quality Assurance

1.1 Background

Quality Assurance Project Plans are required under the Agency’s Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2, and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

Table 1-1. Examples of work that involve the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)

Table 1-1. Examples of work that involve the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, sensitivity and uncertainty analyses, and the procedures for evaluating whether the model meets those criteria.

1.2 QA Project Plan Requirements

The work to be performed by the Contractor under Contract EP-C-13-039 involves the types of environmental data operations shown in Table 1-1. To facilitate compliance with EPA QA policies and to assist EAD in ensuring the quality of the Contractor's work products, the Contractor shall prepare a programmatic QAPP (PQAPP) for all environmental data operations (PWS II A.1-A.6; B.1- B.4; C.1-C.7; D.1-D.2; E, F, and G.) that will be performed under the contract.

A PQAPP is used to describe, in a single document, written in the active voice, information that is not site or time-specific, but applies throughout the program (i.e., contract). Application-specific information is then added to the approved programmatic QAPP as that information becomes known or completely defined. This may be accomplished through supplemental QAPPs prepared to support individual work assignments issued under the contract. The programmatic QAPP shall be reviewed (and revised as necessary) at least annually to ensure its content continues to be valid and applicable to the program over time.

When preparing the PQAPP, the Contractor shall describe the systems and procedures the Contractor will use in performing activities related to the generation, collection, evaluation, analysis, and use of data under Contract EP-C-13-039. Because this PQAPP shall be prepared as a contract-level document, it is understood that the details (e.g., specific objectives, analytical methods, and/or acceptance criteria) of specific projects may not be known. In such instances, the contract-wide PQAPP shall document the Contractor's procedures for defining and documenting this information for specific projects or work assignments. **Note:** It is expected that

the Contractor will be able to include a detailed description of the objectives, methodologies, and acceptance criteria for all types of activities that the Contractor has previously performed when supporting EAD.

When preparing the contract-wide PQAPP, the Contractor should anticipate that other work assignments issued under this contract will require the Contractor to prepare supplemental QAPPs or update continuation or existing QAPPs that provide specific QA strategies designed to support the objectives of the EPA projects that are supported by those work assignments. For example, if the Contractor receives a work assignment to support a specific industrial category or a specific project (e.g., aquatic ecosystem risk assessment, environmental modeling of fate and effects of pollutants discharged to surface water, development of a new modeling tool, cost/benefit analysis, cost-effectiveness analysis, use of models: SWAT, Sparrow, SWMM, AQUATOX, and HAWQS, calculation of toxic weighting factors(TWF)technical support for litigation, database development and management, etc.) the Contractor will be required to prepare a QAPP that supplements the contract-wide PQAPP by providing details regarding the specific QA/QC strategies needed to support the industrial study or other project described in the corresponding work assignment. Each of these supplemental QAPPs shall provide enough detail to clearly describe the:

- Objectives of the project(s) supported by the corresponding work assignment;
- The type of data to be collected, generated, or used under the corresponding work assignments to support the project objectives – including search engines, federal databases, EPA databases , and a rationale for when those databases are appropriate and what data available in each will support the project;
- The quality objectives needed to ensure the data will support the project objectives; and
- The QA/QC activities to be performed to ensure that any results obtained and work products generated are documented and are of the type, quality, transparency, and reproducibility needed.

Note that EPA and the Office of Water distinguish between “*primary data*” or “*existing data*.” For EAD purposes, *primary data* includes any data generated by EAD or under its direction. Examples include EAD-generated:

- Field or lab data involving the physical, chemical, or biological characteristics of environmental samples,
- Data on the physical location of such samples, including latitude, longitude, city, county, or state
- Field or lab data used to assess the performance of treatment systems or technologies
- Financial information associated with the development of rules, regulations, or guidance documents
- Engineering and process data, and
- Results generated by models

Existing data includes any data not directly generated by EAD to support the decision at hand. Examples include:

- Data collected by an organization or investigator other than EAD (and EAD’s contractors) and not under EAD’s control
- Data collected by others for a purpose other than the current intended use
- Data from existing databases (DMR, TRI, etc.)

- Data compiled from a variety of sources and published in the literature, and
- Anecdotal information.

From a quality perspective, the most important difference between the two types of data are that EAD has an opportunity to design the primary data gathering process to collect relevant, high quality data, whereas EAD does not have this luxury when using existing data. Instead, EAD must verify that primary data is both of sufficient quality and directly relevant to EAD's needs. EPA's traditional QAPP format is ideally suited to the needs of primary data gathering projects. This format is documented in *EPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5, EPA/240/B-01/003, March 2001). Although the format specified in EPA QA/R-5 may be applied to existing data projects, that format is not specifically tailored to the unique needs of such projects. Therefore, EAD has adopted an alternate suite of elements that are designed to improve the quality of existing data QAPPs. A summary of the traditional EPA QA/R-5 elements is provided in Attachment 1 of this work assignment; a summary EAD's modified suite of elements for use in Existing Data QAPPs is provided in Attachment 2.

PQAPP Format

When preparing the contract-level PQAPP that addresses the work specified in the contract PWS, the Contractor may choose to either:

1. Prepare a single PQAPP that addresses both primary and secondary data, or
2. Prepare one PQAPP that addresses all activities related to the generation or use of primary data activities under the contract and a second PQAPP that addresses all activities related to the collection and use of existing data under the contract.

If the Contractor chooses to prepare a single PQAPP (Option 1), the Contractor shall prepare a PQAPP that captures all of the elements identified in Attachments 1 and 2. Note that some QAPP elements are common to both types of projects. If preparing a single PQAPP, the Contractor shall address each of these common elements only once, but must address them in the context of both the primary and the existing data activities as described in the attachments.

If the Contractor chooses to prepare one PQAPP for primary data activities and a separate PQAPP for existing data activities (Option 2), the Contractor shall address all relevant elements in Attachment 1 for the primary data PQAPP and all the relevant elements in Attachment 2 for the existing data PQAPP.

Regardless of which option is chosen, the Contractor may modify the organization of their PQAPP. For example, the Contractor may find it desirable to reorganize the order of the QAPP elements or to consolidate more than one element into a single discussion. The specific order in which various elements are addressed is less important than the content and clarity. Regardless of how the Contractor chooses to organize the PQAPP(s) prepared under this Work Assignment, the Contractor must provide a crosswalk between the organization of the PQAPP(s) and the QAPP elements found in Attachments 1 and 2.

In order to assist the Contractor in understanding how to prepare a contract-wide PQAPP, EPA is providing an example as Attachment 3. This example QAPP was prepared by a different

contractor for a different contract. Accordingly, the QA objectives and strategies described in the attached example were not prepared for the subject contract, and the Contractor should *not* simply copy material from the attached example for use in their own PQAPP. Similarly, the Contractor should not feel it necessary to use a format similar to the one in this example. Rather, the Contractor shall use the attached example only as a tool to help understand how to develop a programmatic QAPP, and shall prepare its own programmatic QAPP that is specific to and tailored to the needs of Contract EP-C-13-039

Finally, EPA is providing a copy of EAD's guidance on *Clarifying the Use of Quality Assurance Project Plans (QAPPs)*, January 2013 as an additional tool to help the Contractor understand EAD procedures for reviewing and approving QAPPs. This guidance is provided as Attachment 4 to this work assignment.

Additional Programmatic QAPP Requirements

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application and as contained in the approved QAPP for the activity. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure that the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, Contractor's PQAPP(s) must specify that 1) all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor will include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and 2) this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed in the approved QAPP and implemented for the project sufficiently support the intended use of the data.

Additionally, the Contractor's PQAPP(s) must specify that no proprietary software will be used under the contract without prior written approval from EPA.

PQAPP Kick-off Meeting and Submission Schedule

Upon receipt of this work assignment, the Contractor shall schedule a meeting with the EPA WAM to discuss the PQAPP requirements, including Contractor questions regarding these requirements and recommended strategies for addressing them. This meeting shall be held on a mutually agreeable date as early as possible after WA receipt.

The Contractor shall submit the contract level PQAPP(s) described above within 60 days after submittal of the work plan. EPA will review the submitted PQAPP(s) and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission. If EPA provides comments requiring changes, the Contractor shall revise PQAPP(s) within 10 days of receipt, unless otherwise instructed by the EPA WAM.

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and supplemental QAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version with an explanation that substantiates the redaction at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version, if approved shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare explanatory text that supports the activities upon which the pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009 is based. If this is required, the EPA WAM shall notify the Contractor through written technical direction

1.3 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and supplemental QAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version with an explanation that substantiates the redaction at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version, if approved shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare explanatory text that supports the activities upon which the pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009 is based. If this is required, the EPA WAM shall notify the Contractor through written technical direction

1.4 QA Deliverables

Deliverable	Projected Schedule Date
Kick-off meeting with EPA WAM to discuss PQAPP requirements	On a mutually agreeable date as early as possible after issuance of the work assignment
Contract-wide PQAPP (<i>Note: This may take the form of either a single PQAPP covering all environmental data operations under the contract, or one PQAPP for environmental data operations associated with primary data, and a separate one for those associated with existing data</i>)	If applicable, within 60 days after submittal of the Work Plan
Revisions to the PQAPP to reflect EPA comment (<i>Note: Deliverable only applies if EPA provides comments on the PQAPP</i>)	Within 10 days of receipt of EPA comments on previous submission

1.5 - CBI Procedures

The work under Contract EP-C-13-039 requires a CBI plan. When preparing the programmatic QAPP, the contractor shall include, where appropriate, CBI procedures as they relate to the quality assurance in the overall contract. In some instances, it may be appropriate to reference sections of the CBI plan, in other situations, the contractor may have to provide more specificity. The contractor should refer to EPA's CBI policy and procedures as described in the contract PWS, Section 3.0. The contractor shall include in the programmatic QAPP the procedures personnel are required to follow to CBI security clearance to use CBI information (Refer to Section H of the schedule for security requirements). The contractor shall factor in the use of CBI information in accordance with contract requirements and limitations to include using the Office of Science and Technology Confidential Business Information (OST-CBI) Application Security Plan (August 2011) or its successor approved plans.

Task 2 – Development of Confidential Business Information Security Plan (Performance Work Statement, Section 3.0)

The Contractor shall develop a plan identifying measures to protect confidential business measures held at its facility. The plan will be similar to the CBI security plan used in the EAD, **Office of Science & Technology Confidential Business Information (OST-CBI) Application Security Plan, August 2011**. See Attachment D OST CBI plan. The plan will be substantive similar to the one used by EAD. It will secure both physical and electronic forms of CBI.

Deliverables

Deliverable/Task	Projected Schedule Date
CBI Plan	Within 15 days after submittal of the Work Plan

Attachments

- **Attachment 1, QAPP Elements in a Primary Data Gathering Project**
- **Attachment 2, QAPP Elements in an Existing Data Gathering Project**
- **Attachment 3, Example of a Contract-wide Programmatic QAPP**
- **Attachment 4, Clarifying the Use of Quality Assurance Project Plans**
- **Attachment 5, Office of Science & Technology Confidential Business Information Application Security Plan**

WORK ASSIGNMENT

I. Title: Stormwater Regulation Economic Analysis Support

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-02

III. Estimated Period of Performance: Date of issuance to September 10, 2014

IV. Estimated Level of Effort: 4000 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Todd Doley
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202/566-1160
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Alternate Work Assignment Manager: Ashley Allen
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VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to estimate the total social costs and economic benefits to society from regulating the construction and development industry and expanding Municipal Separate Storm Sewer System (MS4) coverage.

Total social costs are the sum of private (compliance) and external costs. Economic benefits are estimated by characterizing, quantifying and to the extent possible, monetizing the value to society from regulating the construction and development industry. In addition to total social costs, this WA is meant to assess possible financial impacts as a result of the new regulations. Costs and their burden include, but are not limited to: 1) the compliance costs borne by the construction and development industry sector and MS4s, 2) potential external costs and

secondary and unforeseen consequences of the rule, 3) the burden/incidence of costs passed to the consumer; and 4) the uncertainty distribution of various costs associated with the rule.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that will be based on an approved QAPP that will be developed under Task 2 of this work assignment. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WA 6-01 under the previous contract EP-C-07-023. The work performed under this work assignment will not duplicate work conducted under the previous contract's work assignments.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM.

The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall be required to travel under this work assignment. Travel shall be to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

A weekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables and other potential issues.

Deliverables and schedule under Task 1

- 1a. Workplan within 15 calendar days of receipt of work assignment.
- 1b. If required, revised workplan within 7 calendar days of receipt of comments from the Contracting Officer.

Task 2– Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency’s Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 2-1** below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing economic data (also known as “secondary” use of data). The activities being performed under this work assignment also are a continuation of work previously initiated under a precursor to this contract. Although a QAPP was prepared to support the activities specified in the precursor to this work assignment, the current work assignment includes new tasks and

activities that may not have been sufficiently addressed in the previously approved QAPP. These new tasks and activities include the following:

- Task 4 - Revise and Rerun Economic Analyses as needed
- Task 5 - Benefits Analysis Support
- Task 6 - Additional Economic Analysis Support
- Task 7 - Document and Record Preparation for Proposed Rule

Upon receipt of this work assignment, the Contractor shall review the previously approved *Quality Assurance Project Plan (QAPP) for Stormwater Regulation Economic Analysis Support EPA Contract No. EP-C-07-023*, and update it to reflect the new tasks/activities listed above. The EPA WAM shall deliver the previous QAPP to the contractor within three business days of the issuance of the work assignment. The revised QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives— including search engines, federal databases, EPA data bases— as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The revised QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The Contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. If the contractor already has an approved Programmatic QAPP (PQAPP), the contractor may prepare the revised QAPP in the form of a Supplemental QAPP (SQAPP) instead of as a traditional stand-alone QAPP. If choosing to do so, the Contractor must specifically indicate which aspects (sections) of the PQAPP are being modified in the SQAPP. Table 2-2 at the end of this QA task identifies elements applicable to QAPPs for Existing Data Projects. Regardless of which format (i.e., SQAPP or traditional QAPP) is chosen when updating the previously approved QAPP, the Contractor shall address each element in Table 2-2 that is applicable to the economic data operations performed under this work assignment. The revised QAPP should include a summary table of substantive revisions made to the previous QAPP, based on elements in Table 2.2

identified by the EPA WAM.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the specific areas identified in Table 2-2.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented in the Contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP or SQAPP, and with the Contractor's approved PQAPP (if applicable).
- Any and all deviations from the Contractor's previously approved QAPP (and, if applicable, PQAPP) must be documented in the revised QAPP or SQAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP or SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP or SQAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP or SQAPP is not fully approved (signed) within 50 days after submission of the

Contractor's work plan, the Contractor must stop performing any activities that involve gathering, evaluating, analyzing, and otherwise using existing environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2.6 Deliverables and schedule under Task 2

- 2a. Updated QAPP or SQAPP within 15 days after submittal of the Work Plan**
- 2b. Revised version of the updated QAPP or SQAPP reflecting EPA comments, if needed within 10 days of receipt of EPA comments on initial submission**
- 2c. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report), to be submitted monthly throughout the WA period of performance**

Table 2-2. QAPP Elements Applicable to Projects that Rely on Existing Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	X		
Organization's name	X		
Effective date and/or version identifier	X		
Dated signature of Organization's project manager	X		
Dated signature of Organization's QA manager	X		
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		
Revision History	X		
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		
Organization chart shows lines of authority & reporting responsibilities	X		
Project QA manager position indicates independence from unit collecting/using data	X		
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X	Contractor shall review and revise this element from the previous QAPP
Identifies project objectives or goals		X	Contractor shall review and revise this element from the previous QAPP
Historical & background information		X	Contractor shall review and revise this element from the previous QAPP
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X	Contractor shall review and revise this element from the previous QAPP
A6. Project/Task Description			
List measurements to be made/data to obtain		X	Contractor shall review and revise this element from the previous QAPP
Notes special personnel or equipment requirements		X	Contractor shall review and revise this element from the previous QAPP
Provides work schedule		X	Contractor shall review and revise this element from the previous QAPP
A7. Overall Quality Objectives & Criteria			

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
States overall quality objectives and limits needed to support the project goals and objectives cited in A5		X	Contractor shall review and revise this element from the previous QAPP
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	X		
Discusses how this training will be provided/the necessary skills will be assured and documented	X		
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		
Identifies final work products that will result from the project		X	Contractor shall review and revise this element from the previous QAPP
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes		X	Contractor shall review and revise this element from the previous QAPP
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals		X	Contractor shall review and revise this element from the previous QAPP
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)		X	Contractor shall review and revise this element from the previous QAPP
If project includes development or update of a project database, QAPP identifies and defines each database field		X	Contractor shall review and revise this element from the previous QAPP
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use		X	Contractor shall review and revise this element from the previous QAPP
If literature searches are used, describes the search engines that will be used and key search terms		X	Contractor shall review and revise this element from the previous QAPP
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains		X	Contractor shall review and revise this element from the previous QAPP
For other potential sources, describe the potential sources & rationale for considering or using each one		X	Contractor shall review and revise this element from the previous QAPP
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		
Explains rating system used to evaluate source against each criterion	X		
B4. Data Value Selection Approach			

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented	X		
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	X		
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element	X		
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source		X	Contractor shall review and revise this element from the previous QAPP
C3. Merging or Uploading Electronic Data from Existing Sources			

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)		X	Contractor shall review and revise this element from the previous QAPP
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly		X	Contractor shall review and revise this element from the previous QAPP
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	X		
Describes who will be responsible for access to and maintenance of the stored data	X		
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made		X	Contractor shall review and revise this element from the previous QAPP
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation		X	Contractor shall review and revise this element from the previous QAPP
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project		X	Contractor shall review and revise this element from the previous QAPP
Describes how these determinations will be documented and reported		X	Contractor shall review and revise this element from the previous QAPP
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented		X	Contractor shall review and revise this element from the previous QAPP
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives		X	Contractor shall review and revise this element from the previous QAPP
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations		X	Contractor shall review and revise this element from the previous QAPP
Includes applicable calculations and equations (if known) or explanations of how they will be developed		X	Contractor shall review and revise this element from the previous QAPP
Includes plans for excluding outliers		X	Contractor shall review and revise this element from the previous QAPP
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products		X	Contractor shall review and revise this element from the previous QAPP

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives		X	Contractor shall review and revise this element from the previous QAPP
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes		X	Contractor shall review and revise this element from the previous QAPP
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives		X	Contractor shall review and revise this element from the previous QAPP
Describes how the results of this assessment will be documented		X	Contractor shall review and revise this element from the previous QAPP
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated		X	Contractor shall review and revise this element from the previous QAPP

Task 3 - Adherence to the Standardized Naming Convention and Version Control

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 - Revise and Rerun Analyses as needed

Under the previous contract, the contractor developed models to predict future development, national costs, and future regulated jurisdictions. The contractor also performed several analyses to estimate economic impacts, monetized benefits, as well as effects on property and development characteristics. The EPA WAM anticipates that these models and analyses will need to be revised and rerun twice during this WA, to respond to revisions requested during the option selection process. Key option selection meetings are expected to occur in late September and October. The EPA WAM anticipates the contractor shall familiarize themselves with the models and model inputs within the first two to three weeks after the WA has begun, so that the contractor can revise and rerun the models and analyses needed to estimate national costs, benefits, and economic impacts as needed to support the Option Selection, FAR, and Interagency Review process. The EPA WAM anticipates that the cost, benefits, and impact models will need to be rerun approximately two to three times between October 1, 2013 and February 28, 2014. The specific revisions that will need to be made and the deliverable schedule shall be conveyed to the contractor through technical direction provided by the EPA WAM. However, for budgeting and planning purposes, the contractor should anticipate running and delivering new analytical results on November 1st, December 15th, and January 31st.

Deliverables and schedule under Task 4

- 4a. First Set of Revised National Costs due by November 1, 2013.**
- 4b. First Set of Revised Support Analyses due by November 1, 2013.**
- 4c. Second Set of Revised National Costs due by December 15, 2013.**
- 4d. Second Set of Revised Support Analyses due by December 15, 2013.**
- 4e. Third Set of Revised National Costs due by January 31, 2014.**
- 4f. Third Set of Revised Support Analyses due by January 31, 2014.**

Task 5 - Benefits Analysis Support

In support of the benefits analysis the contractor shall revise and expand upon the benefits work done under the previous work assignments. In addition to revising and rerunning any monetized benefits analyses as specified in the technical direction under Task 4, the contractor shall also continue work begun under the previous contract on an alternative analysis estimating the willingness-to-pay for water quality improvements. Currently this analysis relies on a meta-analysis of valuation studies. The contractor shall also run this analysis using the results from a single national valuation study.

Deliverables and schedule under Task 5

- 5a. Alternative Water Quality Valuation analysis results by October 1, 2013.**
- 5b. If additional edits are required the plan must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

Task 6 - Additional Economic Analysis Support

There are several potential effects of the rule that cannot be readily analyzed and require additional analyses to be performed over a longer time period. In support of the economic analysis the contractor shall revise and expand upon the pass-through effects, hedonic property valuation, open-space benefits, and sprawl analyses done under the previous contracts.

Deliverables and schedule under Task 6

- 6a. Pass-through Effects analysis results by October 17, 2013.**
- 6b. If additional edits are required the plan must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6c. Hedonic property value analysis results by November 17, 2013.**
- 6d. If additional edits are required the plan must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6e. Revised Off-site Benefit analysis results by January 17, 2014.**
- 6f. If additional edits are required the plan must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6g. Sprawl analysis results by January 17, 2014.**
- 6h. If additional edits are required the plan must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

Task 7 - Document and Record Preparation for Proposed Rule

The contractor shall update and revise drafts of the methodology and results chapters for the Economic Analysis and the economic portions of other supporting technical documents, such as the Environmental Assessment and Benefits document. In addition to the Chapters listed in the above tasks, the set of chapters that the contractor will deliver an initial set of drafts for includes:

- Prediction of Future Development
- Developing the Regulatory Baseline
- Developing the National Cost Model
- Overview of the Economic Impact Analyses
- Analysis of Firm- and Industry-Level Economic Impacts
- Projection of Cost and Impacts Over Time
- Analysis of Economy-Wide Output and Employment Impacts.

Several additional chapters will come in a second deliverable, these chapters are:

- Introduction to the Economic Analysis
- Summary of Results from the Economic Analysis
- Summary of Benefits Assessment Methodology and Results
- Social Costs and Benefits of the Proposed Rule.

The contractor shall also prepare supporting materials, such as spreadsheets and memorandums, for the docket. The contractor shall prepare an enumerated list that covers all materials that will be submitted to the docket in support of the final rule.

In addition, the contractor shall produce four to six additional memoranda each approximately five pages in length. These memoranda will address specific issues that may arise during the development of the economic impact and benefits analysis. An example memorandum might be on how future emigration trends within the country may affect our analytical results. The specific content and deliverable dates will be provided to the contractor by the WAM through written technical direction, when the need for a memorandum arises.

Deliverables and schedule under Task 7.

- 7a. Revised and Updated drafts of the Initial Chapters from the Economic Analysis for the Proposed Rule for review by WAM due by November 15, 2013.**
- 7b. Revised and Updated drafts of the Remaining Chapters from the Economic Analysis for the Proposed Rule for review by WAM due by November 30, 2013.**
- 7c. Outline of Materials for the Final Rule Docket due by January 22, 2014.**
- 7d. Additional deliverables (4-6 memoranda) within seven days of receipt of written technical direction by WAM.**

Task 8. Meeting Notes

The contractor shall generate Weekly Meeting Summaries (1/2 – 1 page) summarizing issues to be discussed, conclusions from the current meeting, anticipated actions for the coming week, and time projections for all items. The Meeting Summary will be due COB every Tuesday and after meetings that are not regularly scheduled, unless directed not to by the WAM by written technical direction.

Deliverables and schedule under Task 8.

- 8. Weekly Meeting Summaries due Tuesday of each week, unless directed otherwise by WAM through written technical direction.**

Task 9. Final Deliverables

Prior to, or at the completion of this rulemaking effort that this work assignment supports, the EPA WAM may provide technical direction to the contractor to make electronic copies of all datasets, spreadsheets, computer code, and documents used to produce the deliverables requested under this work assignment in support of the Stormwater Rule. The EPA WAM may also request that the contractor box and send all hard copies of rule survey responses that they currently are responsible for, along with a catalogue of these hard copy documents. The contractor shall make and send these electronic and hard copy materials to the EPA WAM within 14 days of receiving written technical direction from the EPA WAM.

Deliverables and schedule under Task 9.

9. Final deliverable of electronic and hard copy materials due 14 days after receipt of written technical direction from the EPA WAM.

Task 10 – Provide Up-date material for the EAD ELG Database

After the completion of the rulemaking package, including the rule preamble and economic and benefits documents, the contractor shall submit to the EPA WAM information and data to complete the ELG Database template (the template shall be provided by the EPA WAM) for the Stormwater Rule proposal and/or final rule analysis. This information will be stored in EAD's ELG Database. This task shall take no more than 20 hours to complete.

Deliverables and schedule under Task 10

10a. ELG Database template due 21 calendar days after signature by the Administrator.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-02

☐ Other ☒ Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

SW Econ Analyses WA Amendment

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 06/06/2014 To 07/31/2014

Comments:

Of the estimated 1,000 hours only 585 are expected to be associated with costs. The balance of 415 hours are expected to be at no additional cost.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 4,000

09/11/2013 To 07/31/2014

This Action:

1,000

Total:

5,000

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Todd Doley

Branch/Mail Code:

Phone Number 202-566-1160

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460						Work Assignment Number 0-02					
Work Assignment						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001					
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2014			Title of Work Assignment/SF Site Name SW Econ Analyses WA Amendment					
Base X Option Period Number											
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW							
Purpose:				<input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out				Period of Performance			
<input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding											
<input type="checkbox"/> Work Plan Approval								From 06/06/2014 To 07/31/2014			
Comments: Of the estimated 1,000 hours only 585 are expected to be associated with costs. The balance of 415 hours are expected to be at no additional cost.											
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund											
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A.											
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)	
1											
2											
3											
4											
5											
Authorized Work Assignment Ceiling											
Contract Period: 09/11/2013 To 07/31/2014 Cost/Fee: LOE: 4,000											
This Action: 1,000											
Total: 5,000											
Work Plan / Cost Estimate Approvals											
Contractor WP Dated: Cost/Fee: LOE:											
Cumulative Approved: Cost/Fee: LOE:											
Work Assignment Manager Name Todd Doley						Branch/Mail Code:					
(Signature) _____						Phone Number 202-566-1160					
(Date) _____						FAX Number:					
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:					
(Signature) _____						Phone Number: 202-566-1044					
(Date) _____						FAX Number:					
Other Agency Official Name						Branch/Mail Code:					
(Signature) _____						Phone Number:					
(Date) _____						FAX Number:					
Contracting Official Name Robert A. Knecht						Branch/Mail Code:					
(Signature) _____						Phone Number: 513-487-2043					
(Date) _____						FAX Number:					

WORK ASSIGNMENT AMENDMENT

I. Title: Stormwater Regulation Economic Analysis Support

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-02/amendment 1

III. Estimated Period of Performance: Approval to September 30, 2014

IV. Estimated Level of Effort: 1000 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

Alternate Work Assignment Manager: Ashley Allen
OST/EAD (4303T)
202/566-1012
202/566-1053 (fax)

VI. Background and Purpose:

The purpose of this amendment is to add 415 no-cost hours to the existing WA so that the contractors can continue to perform work listed in the WA 0-02. The contractor will also need an additional 585 cost hours to perform work and prepare new deliverables under Tasks 6 and 7.

VII. Performance Work Statement

Task 6 - Additional Economic Support

There are several potential effects of the rule that cannot be readily analyzed and require additional analyses to be performed over a longer time period. In support of the economic analysis the contractor shall revise and expand upon the hedonic property valuation and sprawl analyses done under the previous work assignments.

Deliverables and schedule under Task 6

6.a Deliver Sprawl Draft Report by July 7th, 2014

6.b If additional edits are required the report must be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

6.c Deliver draft report of New York Hedonic Property Value Analysis by July 18th, 2014

6.d If additional edits are required the report must be updated within 10 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 7 - Document and Record Preparation for Proposed Rule

The contractor shall prepare final drafts of the methodology and results chapters for the Economic Analysis and the economic portions of other supporting technical documents, such as the Environmental Assessment and Benefits document. The contractor shall also prepare several appendices to be included in the final document.

Deliverables and schedule under Task 7.

7.a Uncertainties and Limitations Section for Construction Activity Forecast Chapter by July 7th, 2014

7.b If additional edits are required the report must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

7.c Primary Case Results Appendix for Construction Activity Forecast Chapter by July 14th, 2014

7.d If additional edits are required the report must be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

7.e Uncertainty Case Results Appendix for Construction Activity Forecast Chapter by July 14th, 2014

7.f If additional edits are required the report must be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

7.g Uncertainties and Limitations Section for National Cost Analysis Chapter by July 7th, 2014

7.h If additional edits are required the report must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

7.i Results Section for National Cost Analysis Chapter by July 14th, 2014

7.j If additional edits are required the report must be updated within 7 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-03

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Stormwater Discharges

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Tasks 1, 2, 3, 4, 5 and 6

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/12/2013 To 07/31/2014

This Action:

3,000

Total:

3,000

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Ashley Allen

Branch/Mail Code:

Phone Number 202-566-1012

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: Environmental Impact and Benefit Assessment to Support Development of Regulations Addressing Stormwater Discharges from Developed Areas

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-03

III. Estimated Period of Performance: Date of Issuance to September 10, 2014

IV. Estimated Level of Effort: 3,000 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Ashley L. Allen
OST/EAD (4303T)
202/566-1012
202/566-1053 (fax)

Alternate Work Assignment Manager: Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

VI. Background and Purpose:

Stormwater runoff from developed areas is a significant source of pollutants and other stressors for waters of the United States. Urbanization and the associated increase in impervious surface area fundamentally change watershed hydrology and degrade aquatic ecosystems over time.

EPA developed its existing stormwater regulations as directed under Section 402(p) of the Clean Water Act (CWA). Regulated entities comply with existing regulations through the use of a wide variety of programs and best management practices (BMPs). Under Section 402(p)(6), EPA is authorized to designate additional stormwater discharges to be regulated and to establish a comprehensive program for their management.

EPA is currently considering actions to modify existing stormwater regulations and designate new stormwater sources for regulation. Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society of new or modified regulations.

The purpose of this Work Assignment (WA) is to provide technical support for analysis of the environmental impact associated with stormwater discharges from developed areas and of the benefit associated with their reduction. This analysis will provide both a qualitative description

and a quantitative estimate of environmental impacts and benefits. The analysis will examine both baseline conditions and incremental changes associated with each of several regulatory options.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA-approved quality assurance (QA) project plan that was developed under Contract EP-C-07-023. The QA project plan describes the procedures for assuring the quality of the primary and secondary environmental data used for this WA.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WA 6-06 under Contract EP-C-07-023. The work required under this WA will not duplicate work conducted under EPA Contract Number EP-C-07-023 (WAs 3-06, 4-06, 5-06, and 6-06).

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA

WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

2a. Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2b. QA Project Plan Requirements

The activities in this work assignment involve the collection, generation, evaluation, analysis or use of environmental data under Tasks 4, 5, and 6. The work being performed under these tasks are a continuation of work previously initiated under a predecessor to this work assignment, and the following QAPP was previously approved to support these activities: *Quality Assurance Project Plan (QAPP) for Environmental Impact and Benefit Assessment to Support Development of Regulations Addressing Stormwater Discharges from Developed Areas, Revision 0.0, August 14, 2012*. Upon receipt of this work assignment, the Contractor shall review the approved QAPP and either:

- Agree that the QAPP cited above is sufficient to support all environmental data operations that will be conducted under the work assignment, (Option 1) or

- Identify and document areas that require an update of the previously approved QAPP (Option 2).

If Option 1 is selected, the Contractor's work plan must include a statement indicating that it agrees to fully comply with the requirements specified in the previously approved QAPP and distribute this QAPP to members of the Contractor team who will support the work assignment.

Alternatively, if Option 2 is chosen, the Contractor shall a) include in its work plan a statement that the Contractor plans to submit proposed updates to the attached QAPP, b) summarize the nature of those planned updates in the work plan, and c) submit the revised QAPP to EPA for review within 10 days following submission of the work plan. EPA will review the revised QAPP and provide the Contractor with written approval or comment within 15 days of receiving the Contractor's submission. If EPA provided comments on the updated QAPP (instead of approval), the Contractor shall further revise it to address EPA comments within 10 days of comment receipt, unless otherwise instructed by the EPA WAM.

2c. Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure that the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) for the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, analytical methods) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WAM will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's QAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part

of the contract-required monthly financial/technical progress report.

2d. Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2e. QA Deliverables

Deliverable	Projected Schedule Date
Update of previously approved QAPP reflecting any updates needed to support this WA (NOTE: Deliverable applies only if deemed to be necessary as per Option 2 of the "QA Project Plan Requirements" section of this work plan)	If applicable, within 10 days after submittal of the Work Plan
Revisions to updated QAPP to reflect EPA comment (NOTE: Deliverable only applies if an updated QAPP is needed and if EPA provides comments on the updated QAPP)	Within 10 days of receipt of EPA comments on previous submission
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 – Quantitative Analysis of Surface Water Effects from Developed Area Stormwater Discharges [*Section B.1 Performing Environmental Assessments*]

The contractor shall develop and implement methods for quantifying the surface water effects (e.g., changes in pollutant levels, hydrogeomorphological characteristics, suitability for human use) of developed area stormwater discharges and their reduction under each of several regulatory alternatives being developed by EPA for a proposed rule. To the extent feasible given available methodologies and data, the estimates of surface water effects will be national in scope.

The contractor shall make use of the most recent versions of input data sets when analyzing regulatory scenarios. The EPA WAM will make arrangements as needed for the contractor to obtain access to these data sets. Input data sets include:

- *Outputs from analyses conducted by EPA's engineering team to be used for calculating the aggregate characteristics of stormwater controls assigned to specific development project types (e.g., control volume and treated effluent characteristics).

- *Outputs from analyses conducted by EPA's economic impact team on the acreage, project type, and distribution of development and impervious cover, and associated stormwater controls anticipated to occur through 2040 in the watersheds of interest in the coterminous United States.

Subtask 4A - SWAT Analysis

The SWAT model has been identified as a tool that can quantify surface water flow and pollutant level changes in response to stormwater discharges in developed areas. Under EPA Contract EP-C-07-023, EPA's contractor worked with Texas A&M University (TAMU) to develop a SWAT-based methodology suitable for evaluating a variety of EPA regulatory scenarios.

EPA's contractors under EPA Contract EP-C-07-023, WA 5-06 and 6-06 provided to EPA written descriptions of the SWAT-based methodology as well as preliminary results from use of the methodology to evaluate surface water conditions under both baseline conditions and several regulatory scenarios.

The contractor shall examine the written materials and preliminary results generated under EPA Contract EP-C-07-023, WA 5-06 and 6-06. The contractor shall then undertake the following tasks to improve the analysis:

- *Refine the methods developed for extrapolating results from modeled watersheds (each approximately the size of a four-digit Hydrologic Unit Code defined watershed) to the remainder of the watersheds in the coterminous United States for which SWAT models are not available. The current extrapolation approach relies on watershed categorization according to several traits. Refinements include:

- Develop and test statistical regression techniques for extrapolation. Exploration of these techniques under EPA Contract EP-C-07-023, WA 6-06 determined that they may be a feasible approach to extrapolation. Based on written technical direction from the EPA WAM, the contractor shall incorporate this approach into the analysis.

- Investigate the feasibility of watershed categorization methods that are customized for sedimentation and/or suspended sediment environmental impacts. Based on written technical direction from the EPA WAM, the contractor shall incorporate this approach into the analysis.

- *The current analysis quantifies regulatory and baseline conditions in the year 2040. Based on written technical direction from the EPA WAM, the contractor shall modify the SWAT-based modeling framework to explicitly model one to four more years in addition to 2040 during EPA's chosen time period for regulation implementation (2020-2040).

- *The current analysis utilizes information on long term (multi-year) average concentrations of pollutants in surface waters to characterize their quality. Based on written technical direction from the EPA WAM, the contractor shall develop and implement an approach to quantifying changes in surface water quality that has a finer temporal resolution (e.g., daily or monthly), accounts for pollutant

levels that are defined as “acceptable,” and accounts for the frequency and magnitude with which those “acceptable” levels are exceeded.

*Revise the methodology as needed to respond to information provided by reviewers from EPA and other branches of the federal government. EPA estimates this aspect of this task will require approximately 250 hours of contractor effort.

The contractor shall provide written documentation of their findings and methodology modifications.

The contractor shall use the modified SWAT-based modeling framework to quantify the environmental impacts of several regulatory alternatives. The EPA WAM will provide to the contractor sufficient information on the regulatory alternatives to conduct the analyses. EPA projects that the contractor shall analyze up to 15 regulatory alternatives (in addition to baseline regulatory conditions) using complete SWAT model runs.

Complete SWAT model runs require the contractor to run SWAT, analyze, and process the outputs for use in subsequent benefits monetization analyses. The methodology requires summarizing long term average in-stream concentrations of pollutants included in the water quality index (WQI) at the sub-basin scale for use in monetizing benefits from water quality improvements. The contractor must also estimate changes in sedimentation levels at the sub-basin scale. The contractor shall extrapolate results from modeled watersheds to other watersheds in the coterminous United States which were not modeled.

The time period of interest for the analysis is 2020 through 2040. Unless otherwise specified by written technical direction from the EPA WAM as described above, the analysis will provide an estimate of changes due to regulatory scenarios relative to baseline conditions for the year 2040.

The contractor shall provide a written description of the results from the model runs as well as their uncertainties and limitations.

Deliverables and schedule under Subtask 4A:

- a. Written description of revised methodologies and model run results: Due by October 7, 2013

Subtask 4B – Research Methodologies to Expand Scope of Surface Water Analysis

Under EPA Contract EP-C-07-023, WA 4-06, EPA’s contractor produced a memo summarizing of suggestions from surface water modeling experts of methodologies that could potentially increase the scope and resolution of the SWAT-based surface water

analysis described under Subtask 4a. These methodologies would potentially characterize surface water effects at a finer spatial and/or temporal resolution than the SWAT-based analysis and/or characterize surface water effects not currently captured by the SWAT-based analysis. The contractor's summary also provided a discussion, based on information gathered under EPA Contract EP-C-07-023, WA 4-06 of steps that could be taken to better characterize the strength and feasibility of the different approaches. General approaches summarized in the memo included:

- *Extrapolate from case study values in the literature on relationships between impervious cover and stream health, or between stream flow variability and stream health, to areas affected by rule
- *Modify the national sediment SPARROW model to include metrics more sensitive to the environmental improvements associated with the regulatory scenarios
- *Use an analysis of changes in "erosion potential" from development sites to help categorize streams in terms of their potential for improvement under the rule
- *Use data on relationships between stream flow and sediment transport to estimate improvements in water quality and possibly channel erosion under the rule
- *Run a mechanistic watershed model at a finer temporal and spatial scale for one or more watersheds and, if feasible, extrapolate the results to the remainder of the United States
- *Develop export coefficients that relate the effectiveness of the rule to in-stream pollutant transport

EPA shall ensure the contractor obtains a copy of this memo. According to written technical direction from the EPA WAM, the contractor shall undertake further research into one or more of the priority steps identified in the memo. The contractor shall provide a written description of findings from the research.

In addition, the current SWAT-based analysis is suitable for examining surface water effects in non-tidal freshwater surface waters but is unable to quantify impacts to estuarine and coastal waters from stormwater discharges from developed areas. According to written technical direction from the EPA WAM, the contractor shall research and provide a written summary of possible approaches to quantifying effects of stormwater discharges and their control on estuarine and/or coastal waters (e.g., use the Chesapeake Bay water quality model developed by EPA's Chesapeake Bay Program Office).

EPA anticipates that this Subtask will require approximately 300 hours of effort.

Deliverables and schedule under Subtask 4B:

a. Written descriptions of research findings: Due within 60 days of written technical direction from the EPA WAM.

Task 5 - Quantitative Analysis of Land-Based Environmental Changes Associated with the Use of Best Management Practices for Developed Area Stormwater Discharges [Section B.1 Performing Environmental Assessments]

Under EPA Contract EP-C-07-023, WA 5-06 and 6-06 EPA's contractor developed methodologies for quantifying the following categories of benefits within the coterminous United States:

- *Changes in net carbon sequestration levels due to increased vegetation levels;
- *Changes in ambient concentrations of air pollutants and associated human health effects due to increased vegetation levels;
- *Changes in energy consumption by buildings due to increased tree cover and associated energy expenditure, air pollution, greenhouse gas, and human health effects.

The contractor shall revise the methodologies as needed to respond to information provided by reviewers from EPA and other branches of the federal government. The contractor shall provide written descriptions of the refined methodologies to the EPA WAM. EPA estimates this aspect of this task will require approximately 150 hours of contractor effort.

The contractor shall subsequently implement the refined methodologies to quantify benefits of several regulatory options at the national level. Model implementation includes input data collection and pre-processing, running of model algorithms, and output data processing. The contractor shall make use of the latest outputs from the economic impact analysis team regarding the acreage, project type, and distribution of development and impervious cover anticipated to occur through 2040, in order to estimate changes in vegetation levels under the various regulatory options. The time period of interest for the analysis is 2020 to 2040.

The contractor shall use the revised methodologies to quantitatively characterize land-based environmental changes associated with use of best management practices for the management of stormwater discharges from developed areas under each of several regulation alternatives being developed by EPA for a proposed rule. The EPA WAM will provide to the contractor sufficient information on the regulation alternatives to conduct the analyses. EPA projects that the contractor shall analyze no more than 30 regulatory alternatives.

The contractor shall provide a written description of the analysis' methodology, data inputs, results, limitations, and uncertainties.

Deliverables and schedule under Task 5:

- a. Written description of revised methodologies and model results: Due by October 7, 2013.**

Task 6 – Technical Background Document and Supporting Documentation [*Section B.1 Performing Environmental Assessments and Section C.1 Collection/Preparation of Reports*]

Under EPA Contract EP-C-07-023, WA 6-06 EPA's contractor produced a draft technical background document ("Environmental Impact and Benefits Assessment"). The technical background document provides a qualitative overview of the environmental impacts associated with discharges of stormwater from developed areas and of the benefits associated with their control through the use of BMPs as stipulated under each of several regulatory options under development by EPA. The document also describes EPA's quantitative analysis of the environmental benefits (both surface water and land-based) expected from these regulatory options. This descriptions address methodologies and data sources used for the quantitative analyses, as well as results, limitations, and uncertainties. The document also provides information on the quality assurance performed during information collection and analysis and as described in the Quality Assurance Project Plan for this work assignment.

Under this WA, the contractor shall review the document. The contractor shall update the document to incorporate new information on the topics above as it becomes available. Sources of new information include comments provided by reviewers from EPA and other branches of the federal government, the gray and published literature, and output from work carried out under Tasks 4 and 5. The contractor shall write material for the document in a manner suitable for placement in the public record in support of a proposed rule.

The contractor shall also assemble all additional materials necessary to document the analyses and findings cited in the technical background document and prepare them for placement in the public record in support of a proposed rule. The EPA WAM will provide information to the contractor on the appropriate format and numbering system to use when preparing the materials.

Deliverables and schedule under Task 6:

- a. Technical Background Document – Draft 1: Due by October 14, 2013**
- b. Technical Background Document – Draft 2: Due by November 13, 2013**
- c. Technical Background Document – Draft 3: Due by February 12, 2014**
- d. Supporting Documentation: Due by February 12, 2014**

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-03

☐ Other ☒ Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2015

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Stormwater Discharges

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Task 4

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

This amendment is at no additional cost.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 3,000

09/11/2013 To 07/31/2015

This Action:

253

Total:

3,253

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Ashley Allen

Branch/Mail Code:

Phone Number 202-566-1012

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT AMENDMENT

I. Title: Environmental Impact and Benefit Assessment to Support Development of Regulations Addressing Stormwater Discharges from Developed Areas

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-03/ Amendment 1

III. Estimated Period of Performance: Amendment Approval to July 31, 2014

IV. Estimated Level of Effort for Amendment: 253 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM):

Ashley L. Allen
OST/EAD (4303T)
202/566-1012
202/566-1053 (fax)

Alternate Work Assignment Manager:

Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

Purpose

The purpose of this amendment is to request additional effort under this work assignment. This additional effort is necessary under Task 4 ("Quantitative Analysis of Surface Water Effects from Development Area Stormwater Discharges") to do research, perform sensitivity analyses, and revise the surface water methodology in response to comments and information provided by EPA reviewers.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-04

☐

Other

☐

Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

316(b) existing Facilities

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☒

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/12/2013 To 07/31/2014

This Action:

2,253

Total:

2,253

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Wendy Hoffman

Branch/Mail Code:

(Signature)

(Date)

Phone Number 202-564-8794

FAX Number: 202-566-1053

Project Officer Name Damon Highsmith

Branch/Mail Code:

(Signature)

(Date)

Phone Number: 202-566-2504

FAX Number:

Other Agency Official Name

Branch/Mail Code:

(Signature)

(Date)

Phone Number:

FAX Number:

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

(Signature)

(Date)

Phone Number: 513-487-2043

FAX Number:

Contract No.: EP-C-13-039
WORK ASSIGNMENT 0-04

I. Title: Assessment of the Economic and Environmental Costs, Benefits and Impacts of the Final 316(b) Existing Facilities Rulemaking

II. Contractor: Abt Associates

III. Work Assignment Number: 0-04

IV. Estimated Period of Performance: Date of Issuance to September 10, 2014

V. Estimated Level of Effort: 2,253 hours

VI. Key EPA Personnel:

Work Assignment Manager (WAM): Wendy Hoffman
OST/EAD (4303T)
(202) 564-8794
(202) 566-1053 (fax)

Alternate Work Assignment Manager: Tom Born
OST/EAD (4303T)
(202) 566-1001
(202) 566-1053 (fax)

VII. Background and Purpose:

The overall purpose of the 316(b) rulemaking is to reduce the impingement and entrainment of fish and other aquatic organisms in cooling water intake structures, mainly at facilities in the electric power generating sector and in manufacturing under section 316(b) of the Clean Water Act (CWA). On February 16, 2004, EPA took final action on the Phase II rule governing cooling water intake structures at existing facilities that are point sources. The Phase II rule applied to those facilities meeting all three of the following criteria: 1) their primary activity is both to generate and transmit electric power or generate electric power for sale to another entity for transmission, 2) they use or propose to use cooling water intake structures with a total design intake flow of 50 MGD or more to withdraw cooling water from waters of the United States, and 3) at least 25 percent of the withdrawn water is used exclusively for cooling purposes. See 69 FR 41576 (July 9, 2004).

Industry and environmental stakeholders challenged the Phase II rule, and following judicial

review, the 2nd Circuit (*Riverkeeper, Inc. v. EPA*, 475 F.3d 83, (2nd Circuit, 2007)) remanded several parts of the Phase II rule. The Court ruled that EPA improperly used a cost-benefit analysis as a criterion for determining BTA, and that EPA inappropriately used ranges in setting performance expectations. The 2nd Circuit further ruled that restoration was not permissible as BTA (Best Technology Available), and that EPA's cost-benefit, site-specific compliance alternative was not in accordance with the Clean Water Act. In response, EPA suspended the Phase II regulation in July, 2007 pending further rulemaking. In response to a petition by Entergy Corporation, the U.S. Supreme Court issued a writ of *certiorari* instructing the 2nd Circuit to send the case record of *Riverkeeper, Inc. v. EPA* to the Court for review of the cost-benefit decision. On April 1, 2009, in *Entergy Corp. v. Riverkeeper Inc.*, the Court decided, "EPA permissibly relied on cost-benefit analysis in setting the national performance standards ... as part of the Phase II regulations." EPA took a voluntary remand of the rule, thus ending 2nd Circuit review.

In June 2006, EPA promulgated the 316(b) Phase III Rule for existing manufacturers, small flow power plants and new offshore oil and gas facilities. Small flow power plants are facilities that use cooling water intake structures with a total design intake flow of less than 50 MGD to withdraw cooling water from waters of the United States, and use at least 25 percent of the withdrawn water exclusively for cooling purposes. Offshore oil and gas firms, and environmental groups petitioned for judicial review, which occurred in the 5th Circuit. EPA voluntarily remanded the existing facilities portion of the Phase III rulemaking and combined the two phases into one rulemaking, known as the Existing Facilities rule (Phase IV), which covers all existing facilities. The proposed rule included site-specific requirements to reduce entrainment of fish and other aquatic organisms caused by cooling water intake structures at existing facilities, and national performance standards for reducing impingement mortality. In the final rule, the Agency is responding to the many comments it received regarding how to increase flexibility in meeting the impingement requirements. The signature date of the final rule has been extended under a Settlement Agreement to November 4, 2013. This work assignment (WA) covers activities undertaken to support the final Phase IV rule.

Executive Orders 12866 and 13563 require EPA to estimate the potential benefits and costs of the rulemaking to society. The purpose of this WA is to assess the cost to and impacts on firms that will be required to implement environmental technologies and, where possible, monetize the environmental impacts of reducing impingement and entrainment at existing electric power plants, manufacturing facilities and new units at existing facilities under the Final 316(b) Existing Facilities rule.

Under WA 0-04, the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan developed for this work. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary economic and environmental data used for this work assignment (see Task 2).

The proposed 316(b) rule was signed by the EPA Administrator on March 28, 2011. This work assignment will provide continued support for completion of the Final 316(b) rule. In carrying

out the tasks specified in this workplan, the contractor shall build upon and continue work performed by the previous contractor under various work assignments on EPA contracts 68-C99-239, 68-W-01-039, EP-W-05-022, and EP-C-07-023. Specifically, this work assignment continues work performed by the previous contractor under work assignments 4-05, 5-05 6-05 of Contract No. EP-C-07-023 on the Economic and Benefits Analyses for the proposed and final 316(b) rule, the related sections of the preamble for the proposed and final rule, and rulemaking activities and technical support on economic cost and impacts, and benefits issues for the final rule.

The work performed under this work assignment shall not duplicate work conducted under the previous work assignments

In addition, under WAs 5-05 and 6-05 under Contract No. EP-C-07-023, the previous contractor performed environmental assessment-related work on the Final 316(b) Existing Facilities rulemaking. That work shall now be completed under Task 6 of this WA.

The EPA WAM will provide to the contractor copies of all relevant documents that were prepared under previous work assignments and contracts, and that will be updated or completed under this work assignment.

VIII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval provided by the EPA WAM. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be identified clearly as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify

the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM.

Quick Response: Under this Performance Work Statement, the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working calendar days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases, another software program agreed to in advance by EPA. Memos are to be written in a manner that will make them easy to turn into draft chapters for the Final Reports. For deliverables that are in Word or pdf versions of Word documents, and that are intended to be shared with EPA management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether or not decimal places are reported. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction provided by the EPA WAM.

Monthly Progress Reports: The monthly progress reports shall include a reporting of hours and funds spent under this WA on a task-by-task basis.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

EPA Estimated Total LOE for Task 1: 30 hours

The contractor shall prepare a workplan within 15 calendar days after receipt of the work assignment signed by the Contracting Officer. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

The contractor shall provide:

1. Workplan within 15 calendar days after receipt of work assignment.

A weekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Task 2 - Quality Assurance (QA)

EPA Estimated Total LOE for Task 2: 80 hours

2.1 QA Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in Table 1-1 below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization).
Data generation	Includes field studies, laboratory studies, and generation of modeling output.
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data.
Data evaluation	Includes data inspection, review, assessment, and validation.
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation.
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs).

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve the collection, generation, evaluation, analysis or

use of environmental data, including primary and existing data. Primary data refers to any data generated by EAD or under its direction to support the decision at hand, and includes data collected through surveys. Existing data includes any data not directly generated by EAD to support the decision at hand; examples include data collected by an organization other than EAD or EAD contractors, data collected by EAD or others for a purpose other than the current intended use, data from existing databases (e.g., TRI, DMR, etc.), data compiled from a variety of sources and published in the literature, and anecdotal information.

As stated in Section VII, Background and Purpose, the activities being performed under this work assignment are continuations of activities previously performed under various work assignments issued under four previous EPA contracts. The contractor for WA 0-04 will build upon and complete those activities without duplicating work previously conducted.

A QAPP was prepared to support the activities specified in the predecessors to this work assignment. Upon receipt of this work assignment, the contractor shall review and update the previous QAPP, titled "*Quality Assurance Project Plan (QAPP) for Assessment and Planning for the Necessary Economic and Benefits Work to Complete the 316(b) Rulemaking*, EPA-Contract No, EP-C-07-023, Work Assignment No. 4-05, dated 9/20/201 and include the new Task 6, Environmental Assessment work. The revised version of this QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations.
- Type of data to be collected, generated, or used under these tasks to support the project objectives—including data from search engines, federal databases, EPA data bases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project.
- Quality objectives needed to ensure the data will support the project objectives.
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.
- The specific details of the analysis and subsequent QA/QC that will be performed by the contractor.

The revised QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review and acceptance.

Please note that the same individual cannot serve as both the WAM and PQA on the project. The contractor shall provide an independent QA review of the work.

The contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval as described in the schedule below.

QAPP Schedule: Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the requirements described above.

- All activities performed under this work assignment prior to submission and approval of the revised QAPP must comply with the QA/QC strategies documented in the contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP, and with the contractor's approved contract-level Programmatic QAPP (if applicable).
- Any and all deviations from the contractor's previously approved QAPP (and, if applicable, Programmatic QAPP) must be documented in the revised QAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP and provide the contractor with written approval or comments within 15 days of receiving the contractor's submission.
- The contractor shall review EPA comments and revise the updated QAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP is not fully approved (signed) within 50 days after submission of the contractor's work plan, the contractor must stop performing any activities that involve the collection, generation, evaluation, analysis or use of environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine whether the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables, including draft final deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the contractor under this work assignment must include a clearly defined section on the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine whether the QA/QC strategies implemented for the project sufficiently support the intended use of the data, and

whether accuracy was maintained in the data manipulation. Algorithms and equations need to be part of this explanation. Upon receipt, the EPA WAM will review each applicable report and certify whether the contractor has adhered to the QA requirements documented in the contractor's QAPP.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes Program QAPPs and Supplemental QAPPs, called PQAPPs and SQAPP.¹) The contractor may claim information in QAPPs as confidential; if the contractor chooses to do so, the contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractor should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA WAM can easily identify the areas that require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the contractor may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM will notify the contractor through written technical direction.

¹ Program QAPPs, or PQAPPs are QAPPs prepared at the contract level, which are intended to cover most activities that would be conducted under the contract. A Supplemental QAPP, or SQAPPs, are prepared at the work assignment level and are intended to cover activities conducted under a work assignment that are not covered by a PQAPP.

Deliverables and schedule under Task 2: The contractor shall provide:

2.1. Updated QAPP within 15days after submittal of Work Plan.

2.2. Revised version of the updated QAPP reflecting EPA comments (if needed), within 10 days of receipt of EPA comments on the initial submission.

2.3. Monthly reports of QA work performed (may be included in contractor's monthly progress report) throughout the WA period of performance.

Task 3 - Adherence to the Standardized Naming Convention and Version Control

EPA Estimated Total LOE for Task 3: 3 hours

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Task 4 – Economic Cost and Impact Analytical Support – (Contract PWS Tasks A.2. Economic and Regulatory Analysis, A.4. Regulatory Flexibility/SBREFA Analysis, A.5. Analysis of Other Statutory and Executive Order Requirement, C.1 Collection/Preparation of Reports, C.2. Review and Analysis of Public Comments and C.4 Quick Turnaround)

The final economic cost and impact analyses, production of the Final Economic Analysis technical support document (TSD), as well as the economic cost and impact sections of the preamble for the Final 316(b) Existing Facilities Rule, and other activities related to the final rulemaking, will be completed under this task.

EPA Estimated Total LOE for Task 4: 864hours

Task 4.1 – Economic Analytical Support –Completion of the Existing Facilities Analyses and Assessment of Potential Final Rule Options for the Economic Technical Support Document (TSD)

The contractor shall finalize analyses conducted by the previous contractor under WA 5-05 and WA 6-05 of Contract No. EP-C-07-023 for electric generators and manufacturers for the Economic Analysis TSD for the economic costs, impacts, and benefits of the final rulemaking (Task 4.2). The significant changes to existing methodology or databases or exploration of new lines of inquiry will follow as outlined:

(1) The contractor shall prepare a short memorandum, table, and/or PowerPoint at the direction of the WAM, through written technical direction. Examples of topics include costs for facilities to comply with the final rule, revision of the discussion of impacts of the final rule on national electricity markets and employment, or an analysis of electric generators' barriers to conversion to combined cycle/natural gas posed by the final rule. The length of the document will be between three and five pages.

(2) Once the EPA WAM has reviewed the document and has decided either to move forward with the changes to existing methods or data, or conduct a new analysis (which would give additional insight into and not supplant the more general goals of the economic analysis outlined in this work assignment), the EPA WAM will give written technical direction to the contractor to finalize the analysis and prepare it for inclusion in the TSD.

EPA expects that between three and five significant changes to the existing methodology or databases, or revised analyses will be required. Examples of changes to the existing methodology include a revised approach to developing the employment impacts analysis, calculation of the energy penalty, or the calculation of costs for the new impingement mortality compliance schedule. Examples of the new types of analyses include revised costs based on changes to the new units definition or compliance with impingement mortality performance standards under the final rule.

The work shall adhere to the approved QAPP for the work assignment and include a description of the QA measures that were followed. These deliverables will be due within one week after receipt of technical direction.

Also under this task, the contractor shall conduct assessments for any additional final rule options that EPA may be requested to develop during the course of Inter-Agency Review. Examples of potential new options include changing the types of new units subject to the new units provision of the final rule and changing requirements for compliance with impingement mortality standards. These scoping option assessment results should be reported to EPA in tabular form, without a significant amount of written explanation and interpretation around the analysis results, unless otherwise directed by the EPA WAM in written technical direction. The EPA WAM will issue written technical direction specifying the options to be assessed and the completion date. EPA expects the number to be between two and four. For the purpose of estimating workplan costs, assume that two of the option assessments will require turn-around on the order of one week and the remaining option assessments may be "quick response" deliverables due within five calendar days or less, particularly as we move through the Inter-Agency Review process.

Once the EPA WAM reviews an option assessment, changes in the scope or methodology of the analyses or assessments will be communicated through technical direction.

Deliverables and schedule under Task 4.1

The contractor shall provide:

4.1a. Methodology and Data Modification Memorandum deliverables due within one week from receipt of technical direction provided by the WAM.

4.1b. Planned Option Assessment deliverables due within one week after receipt of technical direction provided by the WAM.

4.1c. Quick Response Option Assessment deliverables, including analysis of the two to four selected regulatory options, due within one week after receipt of technical direction provided by the WAM.

Task 4.2 –Completion of the Final Technical Support Document for the Economic Costs, Impacts, and Benefits of the Final 316(b) Existing Facilities Rulemaking

Under this task, the contractor shall complete the Economic Analysis TSD prepared by the previous contractor under WA 6-05 (Contract EP-C-07-023) for the final rule. The contractor shall revise the TSD to incorporate the results of the analyses performed under WA 6-05 to address decisions made during Interagency Review for the final rule. Analyses performed by the previous contractor under WA 6-05 include the Compliance Costs for Regulatory Options Assessment; the Cost and Economic Impact Analysis: Facility- and Parent Entity-Level Cost Impacts and Related Electricity Rate Impacts; the Impact of Compliance Costs on Electricity Markets Analysis; the Regulatory Flexibility Act (RFA) Analysis; Air Emissions Impact Analysis, Employment Impacts Analysis the Unfunded Mandates Reform Act (UMRA) Analysis; the Executive Order Analyses (E.O. 13132, 13175, 13045, 13211, 12898, and 13158); the Total Social Cost Analysis and the Benefit/Cost Analysis.

The final Economic Analysis TSD will contain the assessment of three to five primary final rule options which previously were identified through the EPA Office of Water option selection process, as well any additional options identified during the Inter-Agency review. These options will be clarified by the EPA WAM in written Technical Direction.

The draft final TSD will be provided to the EPA WAM for an initial review. Once the EPA WAM completes the initial review of the draft final TSD and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the final Economic Analysis TSD. The EPA WAM's revisions may be in response to changes in the technical data and comments from EPA Office of Water management, Agency workgroup members, and OMB that may arise during Inter-Agency review for the final rule. Revisions may have to be made after each subsequent level of review. All comments will be provided to the contractor through written technical direction by the EPA WAM. There will be three sets of significant revisions. After each set of significant revisions, the contractor shall submit draft materials to the EPA WAM for review. The contractor shall include a description of the QA measures taken in completing this task.

Deliverables and schedule under Task 4.2

The contractor shall provide:

4.2a. Draft materials for each set of significant revisions due three calendar days after receipt of written technical direction from the WAM.

4.2b. Draft of the final Economic Analysis TSD due Oct 18, 2013.

4.2c. Final Economic Analysis TSD due Nov. 1, 2013.

Task 4.3 – Provide Support to EPA for Completion of the Economic Impacts and Executive Orders Sections of the Preamble for the Final 316(b) Existing Facilities Rule

The contractor shall complete the economic impacts and Executive Orders sections of the preamble prepared under WA 6-05 by the previous contractor for the final rulemaking package. Under this task, the final preamble sections may need to be revised in response to comments from the EPA WAM, public comments, changes in the technical data, comments from OW management, OMB and Inter-Agency Review, as well as in response to changes to the final rule regulatory options. All comments will be provided to the contractor by the WAM through written technical direction. After each of three sets of significant revisions initiated by technical direction, the contractor shall supply that portion or section of the preamble to the EPA WAM for further review. The contractor shall prepare final versions of the Economic Impact and Executive Orders sections of the preamble incorporating the EPA WAM's final comments.

Updates to the economic impacts sections of the preamble will be incorporated into the final preamble document.

Deliverables and schedule under Task 4.3

The contractor shall provide:

4.3a. Draft final economics and Executive Orders preamble sections due three calendar days after receipt of written technical direction from the WAM.

4.3b. Final economics and Executive Orders preamble sections due on Oct. 30, 2013.

Task 4.4 – Provide Technical Support for Rulemaking Activities

The contractor shall provide technical support related to economic cost and impacts assessment activities associated with the final rulemaking. This support may include responding to management questions about economic issues and preparing briefing and meeting materials, which may include, but are not limited to, short briefing documents and PowerPoint presentations. Examples of this support include developing economic impacts slides and “one-pagers” and/or writing a briefing document on the impact of the new units definition on facilities’ conversion to combined cycle/natural gas. The contractor may also be directed to participate in and/or conduct briefings, provided support in the review of analyses conducted by EPA and its contractors, provide technical review of materials prepared for the rulemaking by Agency staff, provided support in responding to public comments on the final rule package, perform modeling runs, if needed, to address decisions made during Inter-Agency review for the final rule, and provided support in the development of the rulemaking record. The development of the rule making record may include assembling and uploading rulemaking docket materials, and archiving rulemaking project files. The contractor may also be directed to provide support in preparing briefing materials, reviewing analyses conducted by EPA and its contractors, and providing technical review of materials prepared for the rulemaking by Agency staff. EPA expects the number of projects to be between five and seven. For the purpose of costing, the contractor should assume that three of these requests will require quick responses.

The contractor shall prepare draft materials for the EPA WAM to review. Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM's comments.

Work under this task shall not duplicate any work performed under any other task of this WA.

Deliverables and schedule under Task 4.4

Task 4.4a. Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the WAM.

Task 4.4b. Final deliverables due within two weeks after the contractor receives comments provided by the EPA WAM, by written technical direction.

Task 5 – Economic Benefits Support (Contract PWS Tasks A.2. Economic and Regulatory Analysis, C.1 Collection/Preparation of Reports, C.2. Review and Analysis of Public Comments and C.4 Quick Turnaround)

The final economic benefits analyses, production of the Final Benefits Analysis technical support document (TSD), the economic benefits section of the preamble for the Final 316(b) Existing Facilities Rule, and other activities related to the final rulemaking as described in this task, will be completed under this task. In addition, contractor support for the Science Advisory Board's review of the Stated Preference Survey will occur under this task.

EPA Estimated Total LOE for Task 5: 664 hours

Task 5.1 – Provide Support to EPA in Preparation of the Final Stated Preference Survey Report

Under WA 6-05 of Contract No. EP-C-07-023, the previous contractor began preparation of the final Stated Preference Survey Report based on comments received from EPA and the external peer review of the Stated Preference survey results. The contractor shall edit the draft Stated Preference Survey Report to address comments from EPA and the external peer review and provide a final version of the report. EPA expects that the contractor will perform a maximum of three potential significant revisions to the current draft report, including rerunning existing models and running new models, based on comments received from the EPA WAM. For purposes of costing, the contractor shall assume that EPA will request that it conduct up to five additional model runs for the report.

All comments will be provided to the contractors by the WAM through written technical direction. After each set of significant revisions initiated by technical direction, the contractor shall supply that portion or section of the document to the EPA WAM for further review to finalize the analysis and prepare it for inclusion in the TSD.

The contractor shall prepare a final draft version of the Stated Preference Survey Report and incorporate EPA WAM's comments in a final version.

Deliverables and schedule under Task 5.1

The contractor shall provide:

5.1a. First draft of Stated Preference Survey report due Oct. 18, 2013.

5.1b. Final version of Stated Preference Survey report due within two weeks after the contractor receives comments provided by the EPA WAM, by written technical direction.

Task 5.2 –Economic Benefits Analytical Support – Updating Existing Facilities Benefits Analyses and Assessing Potential Final Rule Options for the Benefits Analysis Technical Support Document (TSD)

The contractor shall update economic benefits analyses conducted by the previous contractor under WA 6-05 for the Benefits Analysis TSD for the final rulemaking. This work is to be done in preparation for the completion of the Benefits Analysis TSD for the final rule (Task 5.3). The internal EPA and Inter-Agency review process for the final rule, as well as public comments EPA has received, may cause EPA to revise the final rule package. For example, this work could include significant changes to how estimated impingement mortality reductions are modeled. The changes to existing methodology or databases or exploration of new lines of inquiry will follow as outlined:

(1) The EPA WAM will provide written technical direction to produce a short memorandum, table, or PowerPoint presentation. The document will be between three and five pages.

(2) Once the EPA WAM has reviewed the document and makes a determination as to whether to move forward with the changes to existing methods or data, or conduct a new analysis, the EPA WAM will provide written technical direction to the contractor to finalize the analysis for inclusion in the TSD. This work would give additional insight into, and not supplant, the more general goals of the economic analysis outlined in this work assignment.

EPA expects that three changes to the existing methodology or databases or new types of analysis will be required. The general time frame for these deliverables will be on the order of one week after issuance of technical direction.

The work shall adhere to the QAPP that will be prepared and approved for the new work assignment, and include a description of the QA measures that were followed. These deliverables will be due within one week after receipt of technical direction.

Also under this task, the contractor shall conduct benefits assessments for any additional final rule options that EPA may be requested to develop during the course of Inter-Agency Review. Examples of potential new options include changing the types of new units subject to the new units provision of the final rule and changing requirements for compliance with impingement

mortality standards. These scoping option assessment results should be reported to EPA in tabular form, without a significant amount of written explanation and interpretation around the analysis results, unless otherwise directed by the EPA WAM in written technical direction. The EPA WAM will issue written technical direction specifying the options to be assessed and the completion date. EPA expects the number to be between two and four. For the purpose of estimating workplan costs, assume that two of the option assessments will require turn-around on the order of one week and the remaining option assessments may be “quick response” deliverables due within five calendar days or less, particularly as we move through the Inter-Agency Review process.

Once the EPA WAM reviews an option assessment, changes in the scope or methodology of the analyses or assessments will be communicated through technical direction.

Deliverables and schedule under Task 5.2

The contractor shall provide:

5.2a. Methodology and Data Modification Memorandum deliverables due within one week after receipt of technical direction provided by the WAM.

5.2b. Quick Response Option Assessment deliverables due within five calendar days or less after receipt of technical direction provided by the WAM.

5.2c. Planned Option Assessment deliverables due within one week after receipt of technical direction provided by the EPA WAM.

Task 5.3 – Benefits Analysis Technical Support Document for the Final 316(b) Existing Facilities Rulemaking

The contractor shall complete a final Benefits Analysis TSD for the final 316(b) Existing Facilities Rulemaking, which will revise the Benefits Analysis TSD that was begun by the previous contractor under WA 5-05.

The economic benefits portion of the TSD most likely will include chapters covering: 1) Introduction; 2) Impingement and Entrainment Biological Quantification; 3) Stated Preference Survey Methodology and Results; 4) Social Cost of Carbon economic benefits, and 4) Regional and National Benefits. The chapter structure and categories of benefits assessed may change as a result of comments from OW management, other federal agencies and OMB, and comments from the public. The Environmental Assessment chapters and all of the environmental assessment work shall be completed under Task 6 of this work assignment. The contractor shall incorporate the final version of the work completed under Task 6 into the final Benefits Analysis TSD, and will be responsible for production of the complete final Benefits Analysis. The contractor shall prepare a chapter of the TSD that summarizes the quality assurance measures that were implemented as a part of adherence to the QAPP for the economic benefits work.

The TSD will contain the Economic Benefits assessment of the final rule and three to five additional rule options. Any rule options that arise from comments from the Inter-Agency review and that are not already included in the final Benefits Analysis will be provided to the contractor through technical direction provided by the EPA WAM.

The Economic Benefits portion of the draft final Benefits Analysis TSD will be provided to the EPA WAM for an initial review. Once the EPA WAM completes the initial review of the TSD and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the draft final Benefits TSD.

Under this task, the draft final Benefits Analysis TSD may also need to be revised further in response to public comments, changes in the technical data, comments from OW management, OMB and Inter-Agency review, as well as changes to the final rule regulatory options and/or technology efficacy results. The EPA WAM expects there will be three rounds of comments as the final rule moves through the Agency and Inter-Agency Review process. All comments will be provided to the contractor through written technical direction by the WAM. After each set of significant revisions initiated by technical direction, the contractor shall supply that portion or chapter of the TSD to the EPA WAM for further review.

Deliverables and schedule under Task 5.3

The contractor shall provide:

5.3a. Draft materials for each set of significant revisions due three calendar days after receipt of written technical direction from the WAM.

5.3b. Draft of the Economic Benefits portion of the final Benefits Analysis TSD due Oct. 18, 2013.

5.3c. Final Economic Benefits portion of the Benefits Analysis TSD due Nov.1, 2013.

5.3d. Draft of the Final Benefits Analysis TSD due Oct. 18, 2013.

5.3e. Final Benefits Analysis TSD due Nov. 1, 2013.

Task 5.4 -- Provide Support in Completion of the Economic Benefits Section of the Preamble for the Final 316(b) Existing Facilities Rule

The contractor shall prepare summaries of the economic benefits analyses performed and of EPA's evaluation of impacts for the final rulemaking package. The contractor also shall provide support in updating preamble drafts and in preparing responses to Inter-Agency questions and comments on all relevant work performed by the contractor.

The contractor shall update the economic benefits preamble section of the final preamble as requested by the EPA WAM. Once the EPA WAM reviews the updated section and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the preamble section.

Under this task, the draft economic benefits section of the preamble for the final rule may also need to be revised further in response to changes in the technical data, comments from OW management, and OMB and Inter-Agency review, as well as changes to the final rule regulatory structure and/or technology efficacy results. The EPA WAM expects there will be three rounds of comments as the final rule moves through the Agency and Inter-Agency Review process. All changes will be provided to the contractor through written technical direction by the WAM. After each set of significant revisions initiated by technical direction is completed, the contractor

shall supply that portion or section of the preamble to the WAM for further review.

Updates to the economic benefits sections of the preamble will be incorporated into the final preamble document.

Deliverables and schedule under Task 5.4

The contractor shall provide:

5.4a. Draft economic benefits preamble section due Oct. 18, 2013.

5.4b. Final economic benefits preamble section due Oct. 30, 2013.

Task 5.5 -- Provide Technical Support for Economic Benefits-related Rulemaking Activities

The contractor shall provide technical support related to economic benefits assessment and related issues associated with the final rulemaking based on technical direction provided by the EPA WAM. This support may include responding to management questions about economic benefits issues, preparing briefing and meeting materials (which may include, but are not limited to short briefing documents and PowerPoint presentations). Examples of these tasks include developing economic benefits slides and “one-pagers” and/or writing a briefing document on the stated preference survey results. The contractor may also be directed to participate in and/or conduct briefings, providing support to Agency economists in their review of benefits analyses conducted by EPA and its contractors, providing technical review of benefits materials prepared for the rulemaking by Agency staff, provide support in responding to public comments on the economic benefits portion of the final rule package, performing modeling runs, if needed, to address decisions related to benefits issues made during option selection for the final rule, and provide support in the development of the rulemaking record for the benefits work. The development of the rule making record may include assembling and uploading rulemaking docket materials, and archiving rulemaking project files. The contractor may also be directed to provide support with the preparation of briefing materials on the benefits analyses, provide support in the review of analyses conducted by EPA and its contractors, and provide technical review of materials prepared for the final rulemaking by Agency staff. Although a precise number of technical support requests cannot be given at this time, EPA expects the number to be between three and six. For the purpose of costing, the contractor should assume that two of these requests will require quick responses.

The contractor shall prepare draft materials for the EPA WAM to review. Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM’s comments.

Deliverables and schedule under Task 5.5

Task 5.5a. Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the WAM.

Task 5.5b. Final deliverable due within 10 calendar days after receipt of comments provided by the WAM.

Task 5.6 -- Provide Technical Support for the Science Advisory Review (SAB) of the Stated Preference Survey

The contractor shall provide technical support for the Science Advisory Board (SAB) review of the Stated Preference Survey. This support will include preparing drafts of technical documents to support the SAB review as requested by the EPA WAM, helping EPA prepare the charge questions for the SAB review and responding to SAB reports on the Stated Preference Survey. The contractor may also be directed to provide support with the preparation of briefing materials on the SAB report. Although a precise number of support requests cannot be given at this time, EPA expects the number to be between three and six. For the purpose of costing, the contractor should assume that two of these requests will require quick responses.

The contractor shall prepare draft materials for the EPA WAM to review. Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM's comments.

Deliverables and schedule under Task 5.6

Task 5.6a. Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the WAM.

Task 5.6b. Final deliverable due within 10 calendar days after receipt of comments provided by the WAM.

Task 6 – Environmental Assessment Support for the Final 316(B) Existing Facilities Rule (Contract PWS Tasks B.1. Performing Environmental Assessments, C.1 Collection/Preparation of Reports, C.2. Review and Analysis of Public Comments and C.4 Quick Turnaround)

EPA Estimated Total LOE for Task 6: 612 hours

The purpose of this task is to support environmental assessment-related work on the Final 316(b) existing facilities rule. Work under this task is a continuation of work performed by the previous contractor under Contract No. EP-C-07-023, WA 6-05. Under this task, the contractor shall assist EPA with completion of the environmental assessment chapters of the Benefits Analysis technical support document (TSD), assist EPA with completion of the environmental assessment sections of the final rule preamble, and assist EPA with completion of the response to comments on the proposed 316(b) existing facilities rule. The contractor shall also provide technical support for environmental assessment-related rulemaking activities such as assembly and uploading of rulemaking docket materials, archiving of rulemaking project files, preparation of materials to support compliance of the Final 316(b) rule with the Endangered Species Act.

The work performed under this work assignment shall not duplicate work conducted under any previous work assignments of Contract No. EP-C-07-023. The contractor shall report expenses for Task 6 as a subtotal within the Monthly Progress Reports for the work assignment.

Task 6.1 – Preparation of the Environmental Assessment Chapters of the Final Benefits Analysis TSD for the Final 316(b) Existing Facilities Rule

The contractor shall revise the environmental assessment related chapters of the Benefits Analysis technical support document to incorporate the results of environmental assessment-related analysis performed by the previous contractor under WA 6-05, as well as any other analysis performed under this work assignment to address decisions made during Interagency Review for the final rule.

The EPA WAM may request that the contractor make revisions to the environmental assessment-related chapters of the Benefits Analysis document in response to changes in the technical data and comments from EPA Office of Water management, and OMB and Interagency Review that may arise during Interagency Review for the final rule. Revisions may have to be made after each subsequent level of review. All changes will be given to the contractors by written Technical Direction. EPA expects the number of significant revisions to be between two and four. After each set of significant revisions, the contractor shall submit draft materials to the EPA WAM for review.

The contractor shall submit the draft environmental assessment-related chapters of the Benefits Analysis document to the EPA WAM for review. The contractor shall incorporate EPA WAM comments and produce the final environmental assessment-related chapters of the Benefits Analysis document.

The final technical edit and production of the final Benefits Analysis document will be prepared under Task 5 of this WA.

Deliverables and Schedule under Task 6.1

6.1.a. Draft materials for each set of significant revisions due three calendar days after receipt of written technical direction from the WAM.

6.1.b. Revised Environmental Assessment Chapters for inclusion in the Benefits Analysis document are due Oct. 18, 2013.

6.1.c. Draft Revised Environmental Assessment Chapters for inclusion in the Benefits Analysis document are due Nov. 1, 2013.

6.1.d. Final Revised Environmental Assessment Chapters for inclusion in the Final Benefits Analysis document are due Nov. 1, 2013.

Task 6.2 - Assist EPA in Preparation of Environmental Assessment Sections of the Preamble for the Final 316(b) Existing Facilities Rule

The contractor shall update sections of the final rule preamble summarizing environmental impacts that will be reduced or eliminated as a result of the regulatory requirements of the final

rule. The contractor shall also review portions of the preamble written by EPA and other contractors to ensure that the environmental assessment material presented is accurate, concise, and complete. If needed, the contractor shall assist EPA with preparing draft responses to Inter-Agency and OMB questions and comments on any environmental assessment-related work performed by the contractor.

The EPA WAM may request that the contractor make revisions to the final rule preamble in response to changes in the technical data, changes to the final rule regulatory requirements, and changes necessitated by comments from Office of Water management, and OMB and Inter-Agency review. Revisions may have to be made after each subsequent level of review. All changes will be given to the contractors by written Technical Direction. EPA expects the number of significant revisions to be between two and four. After each set of significant revisions, the contractor shall submit draft preamble materials to the EPA WAM for review.

The contractor shall submit the draft environmental assessment sections of the preamble to the EPA WAM for review. The contractor shall incorporate the EPA WAM's comments and produce the final environmental assessment sections of the preamble.

Updates to the environmental assessment sections of the preamble will be incorporated into the final preamble document.

Deliverables and Schedule under Task 6.2

6.2.a. Draft environmental assessment sections of the preamble are due Oct. 18, 2013.

6.2.b. Final environmental assessment sections of the preamble are due Oct. 30, 2013.

Task 6.3 - Environmental Assessment-related Technical Support for the Final 316(b) Existing Facilities Rule

The contractor shall, based on technical direction from the EPA WAM, provide technical support for environmental assessment-related tasks for the final 316(b) existing facilities rule such as drafting responses to comments related to environmental assessment topics, preparing materials to support compliance of the final 316(b) rule with the Endangered Species Act or the Coastal Zone Management Act, assisting with response to EPA management questions about environmental assessment issues, exploring potential environmental impacts or benefits of regulatory options, assembling and uploading rulemaking docket materials, archiving rulemaking project files, and performing modeling runs if needed to address decisions made during interagency review the final rule. The contractors may also be directed to assist with preparation of briefing materials, assist Agency staff in their review of analyses conducted by EPA and its contractors, and provide technical review of materials prepared for the rulemaking by Agency staff. Although a precise number of technical support requests cannot be given at this time, EPA expects the number to be between four and six. For the purpose of costing, the contractor should assume that four of these requests require quick responses.

The contractor shall submit draft deliverable materials to the EPA WAM for review and comment. The contractor shall incorporate the EPA WAM's comments and produce final

versions of the materials incorporating the EPA WAM's comments.

Deliverables and Schedule under Task 6.3

6.3.a. Draft deliverables are due Oct. 18 2013.

6.3.b. Final deliverables are due Nov. 1, 2013.

Total Estimated LOE is 2,253 hours.

SCHEDULE OF DELIVERABLES

Task	Deliverable	Delivery Schedule
Task 1 – Prepare Workplan		
1	Prepare workplan	Due within 15 calendar days after WA receipt.
Task 2 - Quality Assurance		
2.1	Updated QAPP	Within 15 days after submittal of Work Plan.
2.2	Revised version of the updated QAPP reflecting EPA comments (only if needed)	Within 10 days of receipt of EPA comments on the initial submission.
2.3	Monthly reports of QA work performed	Throughout the WA period of performance; to be included in monthly progress reports.
Task 3 - Adherence to the Standardized Naming Convention and Version Control (SNCVC)		
3.1a	Adhere to SNCVC memorandum	No deliverable under this Task.
Task 4– Economic Cost and Impact Analytical Support		
4.1a	Methodology and Data Modification Memoranda	Deliverables due one week after receipt of written technical direction provided by the EPA WAM Examples of changes to the existing methodology include a revised approach to developing the energy penalty analysis or the calculation of costs for the new impingement mortality compliance schedule. Examples of the new types of analyses include revised costs based on changes to the new units definition or compliance with impingement mortality performance standards under the final rule.
4.1b	Planned Option Assessments	Deliverables due within one week after receipt of written technical direction provided by the WAM.
4.1c	Quick Response Option Assessments	Deliverables due within five calendar days after receipt of written technical direction provided by the WAM.
4.2a	Draft materials for each set of significant revisions	Deliverables due within three calendar days after receipt of written technical direction from the WAM.
4.2b	Draft of the Final Economic Analysis TSD	Draft deliverable due Oct. 18, 2013.

Task	Deliverable	Delivery Schedule
4.2c	Final Economic Analysis TSD	Final deliverable due Nov. 1, 2013.
4.3a	Draft economics sections of the preamble.	Deliverables due three calendar days after receipt of written technical direction from the WAM.
4.3b	Final economics sections of the preamble	Final deliverable due Oct. 30, 2013.
4.4a.	Draft technical support with rulemaking activities	Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the EPA WAM. Examples of deliverables include developing economic impacts slides and “one-pagers” and/or writing a briefing document on the impact of the new units definition on facilities’ conversion to combined cycle/natural gas.
4.4b	Final technical support with rulemaking activities	Final deliverables due within two weeks after receipt of comments provided by the EPA WAM.
Task 5 – Economic Benefits Analytical Support		
5.1a	First draft of Stated Preference Survey report.	First draft of Stated Preference Survey report due Oct. 18 , 2013
5.1b	Final draft of Stated Preference Survey report.	Final draft of Stated Preference Survey report due two weeks after receipt of technical direction provided by the WAM.
5.2a	Methodology and Data Modification Memorandum	Deliverables due within one week after receipt of technical direction provided by the WAM.
5.2b	Quick Response Option Assessment	Deliverables due within five calendar days or less after receipt of technical direction provided by the WAM.
5.2c	Planned Option Assessment	Deliverables due within one week after receipt of written technical direction provided by the WAM.
5.3a	Draft materials for each set of significant revisions to economic benefits sections of the Final Benefits Analysis (TSD)	Deliverables due three calendar days after receipt of written technical direction from the WAM.
5.3b	Draft economic benefits chapters of the Final Benefits Analysis (TSD)	Draft deliverables due Oct. 18, 2013.
5.3c	Final economic benefits chapters of the Final Benefits Analysis (TSD)	Final deliverables due Nov. 1, 2013.
5.3d	Draft of the Final Benefits Analysis (TSD)	Draft deliverable due Oct. 18, 2013.

Task	Deliverable	Delivery Schedule
5.3e.	Final Benefits Analysis (TSD)	Final deliverable due Nov. 1, 2013.
5.4a	Draft economic benefits preamble section	Draft deliverables due Oct. 18, 2013.
5.4b	Final economic benefits preamble section	Deliverable due Oct. 30, 2013.
5.5a	Draft technical support with rulemaking activities	Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the EPA WAM. Examples of deliverables include developing economic benefits slides and "one-pagers" and/or writing a briefing document on the stated preference survey results.
5.5b	Final technical support with rulemaking activities	Final deliverables due within two weeks after receipt of comments provided by the EPA WAM.
5.6a	Draft support documents for SAB review	Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the EPA WAM.
5.6b	Final support documents for SAB review	Final deliverables due within 10 calendar days after receipt of written technical direction provided by the EPA WAM.
Task 6 – Environmental Assessment Support		
6.1.a	Draft materials for each set of significant revisions.	Deliverables due three calendar days after receipt of written technical direction from the WAM.
6.1b.	Draft Environmental Assessment chapters for the Final Benefits Analysis (TSD)	Draft deliverables due Oct. 18, 2013.
6.1c.	Final Environmental Assessment chapters for the Final Benefits Analysis (TSD)	Final deliverables due Nov. 1, 2013.
6.2a.	Draft Environmental Assessment sections of the preamble	Draft deliverable due Oct. 18, 2013.
6.2b.	Final Environmental Assessment sections of the preamble	Final deliverable due Oct. 30, 2013.
6.3a	Draft technical support with rulemaking activities	Draft deliverables due within 10 calendar days after receiving written technical direction.
6.3b	Final technical support with rulemaking activities	Final deliverables due within 10 calendar day after receiving written technical direction.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-04

☐ Other☒ Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

316 (b) existing Facilities

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

The LOE for Amendment 0001 is estimated to be 1,197 hours.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO
(Max 2)☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 2,253

09/11/2013 To 07/31/2014

This Action:

0

Total:

2,253

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Wendy Hoffman

Branch/Mail Code:

Phone Number 202-564-8794

FAX Number: 202-566-1053

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT 0-04

AMENDMENT 1

- I. **Title:** Assessment of the Economic Costs and Impacts and Benefits of the Final 316(b) Existing Facilities Rulemaking
- Contractor:** Abt Associates **Contract No.:** EP-C-13-039
- II. **Work Assignment Number:** 0-04
- III. **Estimated Period of Performance:** Approval to July 31, 2014
- IV. **Estimated Level of Effort:** 1,197 additional hours (3,450 total hours for WA)
- V. **Key EPA Personnel:**
- Work Assignment Manager (WAM):** Wendy Hoffman
OST/EAD (4303T)
(202) 564-8794
(202) 566-1053 (fax)
- Alternate Work Assignment Manager:** Tom Born
OST/EAD (4303T)
202/566-1001
202/566-1053 (fax)

VI. Purpose of this Amendment

The purpose of this amendment is to provide additional contract support for the work being performed under WA 0-04, Assessment of the Economic Costs and Impacts and Benefits of the Final 316(b) Existing Facilities Rulemaking, under EPA Contract No. EP-C-13-039. The signature date of the final rule has been postponed three times since the start of this WA period, which has meant that work under the WA has continued at an intensive pace for longer than EPA expected when the WA was initially approved. During the course of the work assignment period, additional analyses for both costs and benefits have been required, which were not included in the original Performance Work Statement (PWS). Also, analyses that were included in the PWS have become more complex than anticipated, thus, requiring additional contractor support beyond what was included in the original PWS. This amendment also includes support for implementation activities, which will begin after signature of the final rule. Finally, these additional activities will require increased support for project management activities. The work performed under this amendment does not duplicate any work performed by the contractor under

WA 6 -05.

The additional activities, estimated LOE, deliverables, and schedule for each task as numbered in the original work plan are described below.

VII. Performance Work Statement

Task 1 – Project Management

The additional analyses that will be performed under this amendment will require that the contractor spend additional time on activities related to project management and administrative work for the WA. The estimated LOE for this activity includes time to prepare a work plan for this amendment.

Deliverables and Schedule: The contractor shall prepare existing deliverables required under Tasks 1 and 2.1 of the approved work plan for WA 0-04 to reflect additional activities described in this amendment, according to the schedule in the approved work plan for WA 0-04.

Estimated LOE for Task 1 is 37 hours.

Task 4 – Economic Analytical Support for the Economic Technical Support Document (TSD)

This amendment includes additional hours for work on the final rule. The updates and revisions Abt will be doing for the analyses for the final rule are both more extensive and complex than planned. These analyses include work on the cost models, cost runs, and analytical support in the economic TSD. Among the additional analyses which were not planned for in the original PWS, are more work on employment impacts, changing the definition of closed-cycle cooling to include impoundments, revising the small business analysis to reflect updated size standards published by the Small Business Administration (SBA), and additional analysis on possibly raising the final rule's threshold from 2 mgd (million gallons per day), to 50 mgd. These analyses will require more hours than was budgeted for in the work plan for the work assignment.

The amendment includes additional hours that Abt will use to finalize the Economic Impacts and Executive Orders section of the preamble for the final rule. This additional effort for the preamble is necessary because the Economic Analysis TSD, on which the economic impact section of the preamble is based, will contain more analyses and more extensive revisions than previously expected. The economic impacts section of the preamble, therefore, is requiring more effort than originally planned. The amendment also includes hours for additional work on further revisions to, and finalizing of, the 16 Response to Comments (public comments) essays for the final rule. Abt has been revising the essays in response to comments from EPA, and to reflect changes in the final rule and updates to related analyses. Also, Abt has been tasked with developing and then, in response to the EPA WAM's comments, revising, Memoranda to the Record on multiple topics, such as the revised impoundments provision, implications of alternative discounting methodologies, and an assessment of administrative costs for BPJ [best professional judgment]-based CWA 316(b) permitting, among others. Finally, the amendment includes additional hours for docket preparation activities, which will be more extensive than originally planned.

This work shall be conducted under Task 4— Economic Cost and Impact Analytical Support – subtasks Economic Analytical Support -- Completion of the Existing Facilities Analyses and Assessment of Potential Final Rule Options for the Economic Technical Support Document (TSD); Completion of the Final Technical Support Document (TSD) for the Economic Costs, Impacts and Benefits of the Final 316(b) Existing Facilities Rulemaking; and Provide Support to EPA in Completion of the Economic Impacts and Executive Orders Section of the Preamble for the Final 316(b) Existing Facilities Rule.

Deliverables and Schedule: The contractor shall complete preparation of the following analyses under this amendment and incorporate them into the Final Economic Analysis TSD:

1. The revised analyses to reflect revised definition of closed-cycle cooling to include impoundments.
2. The revised employment impacts analysis.
3. The revised small business impacts analysis to reflect new size standards published by the SBA.
4. All completed revised analyses containing updated administrative costs.

In addition, the contractor shall complete:

1. All Memoranda to the Record.
2. All Response to Comments essays.
3. Additional docket preparation activities.

The contractor shall deliver the revised analyses to the WAM at the time the final economic TSD is submitted, but no later than May 14, 2014.

The contractor shall deliver the revised Response to Comments essays when requested by written technical direction from the WAM, but no later than May 10, 2014.

The contractor shall complete revised economic impacts section of the preamble for the final rule. This revised economic impacts section of the preamble shall reflect the updated, expanded and new analyses discussed above in the TSD when requested by written technical direction from the WAM, but no later than May 10, 2014.

Estimated LOE for Task 4 is 518 hours.

Task 5: Economic Benefits Support

This amendment provides additional support for revising and updating the benefits analyses sections of the Economic Benefits Analysis Technical Support Document (TSD) for the final rule. These additional hours do not include any work on the stated preference survey, but do include work on updating the benefits analysis for the final rule; revisions to corresponding tables and text of the Benefits Analysis TSD for the final rulemaking; revisions to the benefits-related Response to Comments essays; updating the Benefits section of the preamble to reflect updated analyses; and additional work on document preparation for upload to the docket. This

work shall be performed under Task 5 – Stated Preference Survey work (post- NODA); Updating Existing Facilities Economic Benefits Analyses and Assessing Potential Final Rule Options for the Benefits Technical Support Document (TSD); and Benefits Analysis Technical Support Document for the Final 316(b) Existing Facilities Rulemaking. Additional work, including expanded analyses, will be performed under the subtask, Provide Support in Completion of the Economic Benefits Section of the Preamble for the Final 316(b) Existing Facilities Rule. None of this additional work shall duplicate any work already performed under WA 0-04 or previous work assignments under previous contracts.

In addition, EPA will need to begin preparations for the Science Advisory Board (EPA) review of the Stated Preference (SP) Survey conducted under previous WAs related to this project. Those activities requiring contractor support will include revisions to the peer reviewers' SP Survey report in response to EPA comments; additional modeling testing activities related to the SP Survey results before submitting SP results to the SAB, for example, re-estimating models to account for distance effects to assess applicability of the models to assessment of benefits at the permit /waterbody level and developing a model variant that would be tailored to local effects; and other types of technical assistance in preparing other documents such as one-pagers and briefing materials for EPA's use in the SAB review.

Deliverables and Schedule: The contractor shall prepare updated and revised benefits analyses sections in the Benefits Analysis technical support document.

The contractor shall deliver the revised analyses to the WAM at the time the Final Benefits Analysis TSD is submitted, but no later than May 14, 2014.

The contractor shall complete the revised benefits section of the preamble for the final rule and complete the Response to Comments essays. This revised benefits section of the preamble and the final essays shall reflect the updated analyses discussed above, and shall be delivered when requested by written technical direction from the WAM, but no later than May 14, 2014.

The contractor shall submit draft deliverables for the SAB review based on written technical direction from the EPA WAM. The contractor shall incorporate comments from the EPA WAM and submit final deliverables no later than July 31, 2014.

Estimated LOE for Task 5 is 558 hours.

Task 6 – Environmental Assessment Support for the Final 316(B) Existing Facilities Rule

This amendment provides additional support for revising and updating the environmental assessment portions of the Benefits Analysis TSD for the final rule, preamble, and assist EPA with completion of the response to comments on the proposed 316(b) existing facilities rule. Finally, additional hours under this task will support EPA in the ongoing work to consult with the preparation of materials to support compliance of the Final 316(b) rule with the Endangered Species Act.

The work performed under this work assignment shall not duplicate work conducted under WA

6-05 or any previous work assignments of Contract No. EP-C-07-023.

Estimated LOE for Task 6 is 85 hours.

Task 7 – Implementation Activities

Following signature of the final rule, EPA will undertake various activities related to implementation of the rule. Examples of implementation activities include assisting other EPA offices within the Office of Water, such as the Office of Waste Water Management, in responding to questions they receive about permits; developing training materials to help train State Permit Directors on how to implement the rule; and responding to questions from State Permit Directors on rule implementation. These are only examples of likely activities that will require contractor support.

Deliverables and Schedule: The contractor shall prepare draft deliverables to the EPA WAM based on technical direction from the EPA WAM. Final deliverables, incorporating comments from the EPA WAM, shall be delivered two weeks after receiving comments from the EPA WAM, but no later than July 31, 2014.

Estimated LOE for Task 7 is 200 hours.

Total Estimated LOE requested in this amendment is 1,197 hours.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-05

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Steam Electric Economics

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Sections A, C.1, C.2, C.5

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 10/22/2013 To 07/31/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/12/2013 To 07/31/2014

This Action:

2,600

Total:

2,600

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name James Covington

Branch/Mail Code:

Phone Number 202-566-1034

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Noelle Mills

Branch/Mail Code:

Phone Number: 513-487-2171

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: Economic and Benefits Analysis for Steam Electric

Contractor: **Contract No.:** EP-C-13-039

II. Work Assignment Number: 0-05

III. Estimated Period of Performance: Date of issuance until July 31, 2014

IV. Estimated Level of Effort: 2600

V. Key EPA Personnel:

Work Assignment Manager (WAM): James C. Covington, III
OST/EAD (4303T)
202/566-1034
202/566-1053 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to evaluate the economic impacts and benefits of revised regulations on the steam electric industry.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that was developed for this work. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under this Contract EP-C-07-023. The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel

The contractor shall be required to travel under this work assignment. Travel may be to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a

manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in Table 1-1 below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve the collection, generation, evaluation, analysis or use of environmental data. The activities being performed under this work assignment also are a continuation of work previously initiated under a precursor to this contract. Although a QAPP was prepared to support the activities specified in the precursor to this work assignment, the current work assignment includes new tasks and activities that were not addressed in the previously approved QAPP. These new tasks and activities include the following: Tasks 4, 5, 6, 7 and 8.

Upon receipt of this work assignment, the Contractor shall review the previously approved QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR ECONOMIC IMPACT AND BENEFITS ANALYSIS FOR STEAM ELECTRIC RULEMAKING and update it to reflect the new tasks/activities listed above. The revised version of this QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives—including data from search engines, federal databases, EPA data bases— as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The revised QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as

SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The Contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. If the contractor already has an approved Programmatic QAPP (PQAPP), the contractor may prepare the revised QAPP in the form of a Supplemental QAPP (SQAPP) instead of as a traditional stand-alone QAPP. If choosing to do so, the Contractor must specifically indicate which aspects (sections) of the PQAPP are being modified in the SQAPP. **Table 1-2** at the end of this QA tasks identifies elements applicable to QAPPs for projects that involve the use of primary data. Regardless of which format (i.e., SQAPP or traditional QAPP) is chosen when updating the previously approved QAPP, the Contractor shall address each element in Table 1-2 that is applicable to the environmental data operations performed under this work assignment.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the specific areas identified in Table 1-2.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented in the Contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP (or SQAPP), and with the Contractor's approved PQAPP (if applicable).

- Any and all deviations from the Contractor's previously approved QAPP (and, if applicable, PQAPP) must be documented in the revised QAPP or SQAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP or SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP or SQAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP or SQAPP is not fully approved (signed) within 50 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve the collection, generation, evaluation, analysis or use of environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2.6 Tasks 4,5,6,7,8 Deliverables

Deliverable	Projected Schedule Date
Updated QAPP or SQAPP	Within 15 days after submittal of the Work Plan

Deliverable	Projected Schedule Date
Revised version of the updated QAPP or SQAPP reflecting EPA comments, if needed	Within 10 days of receipt of EPA comments on initial submission
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Table 1-2. QAPP Elements Applicable to Projects that Rely on Primary Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	YES		
Organization's name	YES		
Effective date and/or version identifier	YES		
Dated signature of Organization's project manager	YES		
Dated signature of Organization's QA manager	YES		
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	YES		
Revision History	N/A		
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	YES		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	YES		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	YES		
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	YES		
Organization chart shows lines of authority & reporting responsibilities	YES		
Project QA manager position indicates independence from unit collecting/using data	N/A		
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	YES		
Identifies project objectives or goals	YES		
Historical & background information	YES		
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	YES		
A6. Project/Task Description			
List measurements to be made/data to obtain	YES		
Notes special personnel or equipment requirements	YES		
Provides work schedule	YES		
A7. Quality Objectives & Criteria for Measurement Data			
States quality objectives and limits, both qualitatively & quantitatively	YES		
States & characterizes measurement quality objectives as to applicable action levels or criteria	YES		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	N/A		
Discusses how this training will be provided/the necessary skills will be assured and documented	N/A		
A9. Documents & Records			
Lists information & records to be included in data report (e.g., raw data, field logs, results of QC checks, problems encountered)	YES		
Notes required project & QA records/reports	YES		
Gives retention time and location for records and reports	YES		
B1. Sampling Process Design (Experimental Design)			
Types and number of samples required	N/A		
Sampling network design & rationale for design	N/A		
Sampling locations & frequency of sampling	N/A		
Sample matrices	N/A		
Classification of each measurement parameter as either critical or needed for information only	N/A		
Validation study information, for non-standard situations	N/A		
B2. Sampling Method Requirements			
Identifies sample collection procedures & methods	N/A		
Lists equipment needs	N/A		
Identifies support facilities	N/A		
Identifies individuals responsible for corrective action	N/A		
B3. Sample Handling & Custody Requirements			
Notes sample handling requirements	N/A		
Notes chain of custody procedures, if required	N/A		
B4. Analytical Methods Requirements			
Identifies analytical methods to be followed (with all options) & required equipment	N/A		
Specifies any specific method performance criteria	N/A		
States requested lab turnaround time	N/A		
Provides validation information for non-standard methods	N/A		
Identifies procedures to follow when failures occur	N/A		
Identifies individuals responsible for corrective action and appropriate documentation	N/A		
B5. Quality Control Requirements			
Identifies QC procedures & frequency for each sampling analysis, or measurement technique, as well as associated acceptance criteria and corrective action	N/A		
References procedures used to calculate QC statistics (e.g., precision, bias, accuracy)	N/A		
B6. Instrument/Equipment Testing, Inspection, and Maintenance Requirements			
Identifies acceptance testing of sampling and measurement systems	N/A		
Describes equipment needing maintenance and frequency for such maintenance	N/A		
Notes availability & location of spare parts	N/A		
B7. Instrument Calibration & Frequency			
Identifies equipment needing calibration and frequency for such calibration	N/A		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Notes required calibration standards and/or equipment	N/A		
Cites calibration records & manner traceable to equipment	N/A		
B8. Inspection/Acceptance Requirements for Supplies & Consumables			
States acceptance criteria for supplies & consumables	N/A		
Notes responsible individuals	N/A		
B9. Data Acquisition Requirements for Non-Direct Measurements			
Identifies type of data needed from non-measurement sources (e.g., computer databases and literature files), along with acceptance criteria for their use	YES		
Describes any limitations of such data	YES		
B10. Data Management			
Describes standard record keeping & data storage and retrieval requirements	YES		
Checklist or standard forms attached to QAPP	YES		
Describes data handling equipment & procedures used to process, compile and analyze data (e.g., required computer hardware & software)	YES		
C1. Assessment and Response Actions			
Lists required number, frequency, & type of assessments, with approximate date & names of responsible personnel	YES		
Identifies individuals responsible for corrective actions	YES		
C2. Reports to Management			
Identifies the preparer and recipients of reports	YES		
Identifies frequency and distribution of reports for:	YES		
• Project status	YES		
• Results of performance evaluations & audits	YES		
• Results of periodic data quality assessments	YES		
• Any significant QA problems	YES		
D1. Data Review, Verification & Validation			
States criteria for accepting, rejecting, or qualifying data	YES		
Includes project-specific calculations or algorithms	YES		
D2. Verification & Validation Methods			
Describes process for data verification and validation	YES		
Identifies issue resolution procedure and responsible individuals	YES		
Identifies method for conveying these results to data users	YES		
D3. Reconciliation with User Requirements			
Describes process for reconciling with DQOs and reporting limitations on use of data	YES		

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This

system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 - Provide Technical Support for Rulemaking Activities

The contractor shall provide technical support related to economic cost and benefit assessment issues associated with the rulemaking. Such support may include responding to management questions about economic issues, preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). The contractors may also be directed to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record.

The contractor shall prepare no less than 3 and no more than 8 draft and final deliverable material for EPA WAM review and approval.

Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM's comments.

Deliverables and schedule under Task 4 The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

4a. Draft deliverables and due dates listed or modified by written technical direction.

4b. Final deliverable due dates listed or modified by written technical direction.

Task 5 –Final Economic and Regulatory Analysis Report (RIA)

The contractor shall prepare final economic and regulatory analyses for the regulatory options, initiatives and compliance alternatives. These final economic analyses shall assess the private and societal benefits and costs, and their distribution throughout the economy. In addition, the

final economic analyses report shall consider the economic achievability of the regulatory options. Economic analyses shall be performed in a manner prescribed by U.S. EPA "Guidelines for Preparing Economic Analyses" (2010) and OMB Circular A-4, "Regulatory Analysis". The contractor shall use the Integrated Planning Model (IPM) to assess the economic impact of the Steam Electric rulemaking on the Electric industry. The Contractor shall perform no more than 3 runs of the model to determine impacts.

A.2. Economic and Regulatory Analysis

Deliverables and schedule under Task 5

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM.

The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

Deliverables and schedule under Task

Draft memos and analysis

Final memos and analysis

Task 6- Final Cost Benefit Analysis Report (BCA)

The contractor shall evaluate information required for EPA assessments of the total cost of compliance that may be incurred by a community for regulatory or non-regulatory options, as well as the cost that may be incurred by local, State, and federal governments, and by society as a whole. Similarly, the contractor shall provide data required for the EPA's assessment of the benefits of the options to society. These analyses may include environmental benefits, health benefits, recreational benefits, benefits of ecosystem services, and other ecological benefits. Advanced techniques of cost- benefit analysis are required.

A.2.3. Cost-Benefit Analysis

Deliverables and schedule under Task 6

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM.

The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

Deliverables and schedule under Task

Draft memos and analysis

Final memos and analysis

Task-7 Final Analysis and reports of Other Statutory and EO Requirements

The contractor shall provide support for the analyses required under statutes such as the UMRA and the National Technology Transfer and Advancement Act (NTTAA), among others; EOs such as Federalism, Protection of Children's Health, Consultation and Coordination with Indian Tribal Governments; Environmental Justice; and Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use; among others. The contractor shall also

provide support for the Administrator's priorities, which include protection of watersheds and urban waters, environmental justice, improved controls on stormwater and nutrients, improvements to benefits analysis, and market incentives. The EPA shall make all decisions related to the applicability of these statutes and EOs to its actions.

A.5. Analysis of Other Statutory and EO Requirements

Deliverables and schedule under Task 7

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM.

The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

Deliverables and schedule under Task

Draft memos and analysis

Final memos and analysis

Task -8 Review and Analysis of Public Comments

The contractor shall review code and assist the WAM with responding to public comments on the Final Regulatory Impact Analysis (RIA) and Benefits Cost Analysis (BCA) regulations, Notices of Data Availability and studies. The contractor shall provide technical support for EPA's activities to classify, analyze, and respond to comments. Based on an analysis of comments, the contractor shall provide information to the EPA to use in responding to comments on economic, financial, cost and benefits. The contractor shall establish and maintain database systems in support of the public comment process in support of ELGs and the ELG planning process.

C.2. Review and Analysis of Public Comments

Deliverables and schedule under Task 8

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM.

The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

Deliverables and schedule under Task 8

Draft comments responses and analysis

Final comments responses and analysis

Task-9 Benefit Analysis

The contractor shall continue to provide technical support for developing creative and innovative ideas to improve regulatory and non-regulatory benefits analyses supported by comprehensive environmental assessments. The contractor shall develop potential regulatory and non-regulatory options, and assess the impacts of effluent guidelines and other regulations on affected communities. To the extent possible, the contractor shall identify, quantify, and monetize the

benefits of regulatory options. Benefits may take the form of direct and indirect market-use benefits, direct and indirect non-market use benefits, as well as non-use benefits. Examples include human health benefits, recreational benefits, benefits of ecosystem services, and economic productivity. *A.2.2. Benefit Analysis*

Deliverables and schedule under Task 9

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM.

The final date for material will be ongoing as directed by technical direction, but no later than August 29, 2014.

Deliverables and schedule under Task 9

Draft comments responses and analysis

Final comments responses and analysis

Work Assignment Form. (WebForms v1.0)

WORK ASSIGNMENT Amendment 1

I. Title: Economic and Benefits Analysis for Steam Electric

Contractor: **Contract No.:** EP-C-13-039

II. Work Assignment Number:

III. Estimated Period of Performance: June 1, 2014 through July 31, 2014

IV. Estimated Level of Effort: 1220

V. Key EPA Personnel:

Work Assignment Manager (WAM): James C. Covington, III
OST/EAD (4303T)
202/566-1034
202/566-1053 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to evaluate the economic impacts and benefits of revised regulations on the steam electric industry.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that was developed for this work. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary economic data used for this work assignment. *This is an amendment to WA 0-05*

**VII. General Requirements of the Work Assignment and Schedule
(Not sure if I need this section)**

Confidential Business Information: During the course of the work assignment, the contractor will

be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel

The contractor shall be required to travel under this work assignment. Travel may be to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For

deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve the collection, generation, evaluation, analysis or use of environmental data. The activities being performed under this work assignment also are a continuation of work previously initiated under a precursor to this contract. Although a QAPP was prepared to support the activities specified in the precursor to this work assignment, the current work assignment includes new tasks and activities that were not addressed in the previously approved QAPP. These new tasks and activities include the following: Tasks 4, 5, 6, 7 and 8.

Upon receipt of this work assignment, the Contractor shall review the previously approved QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR ECONOMIC IMPACT AND BENEFITS ANALYSIS FOR STEAM ELECTRIC RULEMAKING and update it to reflect the new tasks/activities listed above. The revised version of this QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives—including data from search engines, federal databases, EPA data bases— as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The revised QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as

SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The Contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. If the contractor already has an approved Programmatic QAPP (PQAPP), the contractor may prepare the revised QAPP in the form of a Supplemental QAPP (SQAPP) instead of as a traditional stand-alone QAPP. If choosing to do so, the Contractor must specifically indicate which aspects (sections) of the PQAPP are being modified in the SQAPP. **Table 1-2** at the end of this QA tasks identifies elements applicable to QAPPs for projects that involve the use of primary data. Regardless of which format (i.e., SQAPP or traditional QAPP) is chosen when updating the previously approved QAPP, the Contractor shall address each element in Table 1-2 that is applicable to the environmental data operations performed under this work assignment.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the specific areas identified in Table 1-2.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented in the Contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP (or SQAPP), and with the Contractor's approved PQAPP (if applicable).

- Any and all deviations from the Contractor's previously approved QAPP (and, if applicable, PQAPP) must be documented in the revised QAPP or SQAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP or SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP or SQAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP or SQAPP is not fully approved (signed) within 50 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve the collection, generation, evaluation, analysis or use of environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2.6 Tasks 4,5,6,7,8 Deliverables

Deliverable	Projected Schedule Date
Updated QAPP or SQAPP	Within 15 days after submittal of the Work Plan

Deliverable	Projected Schedule Date
Revised version of the updated QAPP or SQAPP reflecting EPA comments, if needed	Within 10 days of receipt of EPA comments on initial submission
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Table 1-2. QAPP Elements Applicable to Projects that Rely on Primary Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	YES		
Organization's name	YES		
Effective date and/or version identifier	YES		
Dated signature of Organization's project manager	YES		
Dated signature of Organization's QA manager	YES		
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	YES		
Revision History	N/A		
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	YES		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	YES		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	YES		
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	YES		
Organization chart shows lines of authority & reporting responsibilities	YES		
Project QA manager position indicates independence from unit collecting/using data	N/A		
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	YES		
Identifies project objectives or goals	YES		
Historical & background information	YES		
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	YES		
A6. Project/Task Description			
List measurements to be made/data to obtain	YES		
Notes special personnel or equipment requirements	YES		
Provides work schedule	YES		
A7. Quality Objectives & Criteria for Measurement Data			
States quality objectives and limits, both qualitatively & quantitatively	YES		
States & characterizes measurement quality objectives as to applicable action levels or criteria	YES		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	N/A		
Discusses how this training will be provided/the necessary skills will be assured and documented	N/A		
A9. Documents & Records			
Lists information & records to be included in data report (e.g., raw data, field logs, results of QC checks, problems encountered)	YES		
Notes required project & QA records/reports	YES		
Gives retention time and location for records and reports	YES		
B1. Sampling Process Design (Experimental Design)			
Types and number of samples required	N/A		
Sampling network design & rationale for design	N/A		
Sampling locations & frequency of sampling	N/A		
Sample matrices	N/A		
Classification of each measurement parameter as either critical or needed for information only	N/A		
Validation study information, for non-standard situations	N/A		
B2. Sampling Method Requirements			
Identifies sample collection procedures & methods	N/A		
Lists equipment needs	N/A		
Identifies support facilities	N/A		
Identifies individuals responsible for corrective action	N/A		
B3. Sample Handling & Custody Requirements			
Notes sample handling requirements	N/A		
Notes chain of custody procedures, if required	N/A		
B4. Analytical Methods Requirements			
Identifies analytical methods to be followed (with all options) & required equipment	N/A		
Specifies any specific method performance criteria	N/A		
States requested lab turnaround time	N/A		
Provides validation information for non-standard methods	N/A		
Identifies procedures to follow when failures occur	N/A		
Identifies individuals responsible for corrective action and appropriate documentation	N/A		
B5. Quality Control Requirements			
Identifies QC procedures & frequency for each sampling analysis, or measurement technique, as well as associated acceptance criteria and corrective action	N/A		
References procedures used to calculate QC statistics (e.g., precision, bias, accuracy)	N/A		
B6. Instrument/Equipment Testing, Inspection, and Maintenance Requirements			
Identifies acceptance testing of sampling and measurement systems	N/A		
Describes equipment needing maintenance and frequency for such maintenance	N/A		
Notes availability & location of spare parts	N/A		
B7. Instrument Calibration & Frequency			
Identifies equipment needing calibration and frequency for such calibration	N/A		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Notes required calibration standards and/or equipment	N/A		
Cites calibration records & manner traceable to equipment	N/A		
B8. Inspection/Acceptance Requirements for Supplies & Consumables			
States acceptance criteria for supplies & consumables	N/A		
Notes responsible individuals	N/A		
B9. Data Acquisition Requirements for Non-Direct Measurements			
Identifies type of data needed from non-measurement sources (e.g., computer databases and literature files), along with acceptance criteria for their use	YES		
Describes any limitations of such data	YES		
B10. Data Management			
Describes standard record keeping & data storage and retrieval requirements	YES		
Checklist or standard forms attached to QAPP	YES		
Describes data handling equipment & procedures used to process, compile and analyze data (e.g., required computer hardware & software)	YES		
C1. Assessment and Response Actions			
Lists required number, frequency, & type of assessments, with approximate date & names of responsible personnel	YES		
Identifies individuals responsible for corrective actions	YES		
C2. Reports to Management			
Identifies the preparer and recipients of reports	YES		
Identifies frequency and distribution of reports for:	YES		
• Project status	YES		
• Results of performance evaluations & audits	YES		
• Results of periodic data quality assessments	YES		
• Any significant QA problems	YES		
D1. Data Review, Verification & Validation			
States criteria for accepting, rejecting, or qualifying data	YES		
Includes project-specific calculations or algorithms	YES		
D2. Verification & Validation Methods			
Describes process for data verification and validation	YES		
Identifies issue resolution procedure and responsible individuals	YES		
Identifies method for conveying these results to data users	YES		
D3. Reconciliation with User Requirements			
Describes process for reconciling with DQOs and reporting limitations on use of data	YES		

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 - Provide Technical Support for Rulemaking Activities

The contractor shall, provide technical support related to economic cost and benefit assessment issues associated with the rulemaking. Such support may include responding to management questions about economic issues, preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). The contractors may also be directed to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record.

The contractor shall prepare no less than 3 and no more than 8 draft and final deliverable material for EPA WAM review and approval.

Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM's comments. *This task need additional hours due to unforeseen coordination with OP and ORCR to ensure that both projects are in Sync with EPA guidance.*

Deliverables and schedule under Task 4

The final date for material will be August 29, 2014.

4a. Draft deliverables and due dates listed or modified by written technical direction.

4b. Final deliverable due dates listed or modified by written technical direction.

Task 5 – Draft Final Economic and Regulatory Analysis Report (RIA)

The contractor shall prepare final economic and regulatory analyses for the regulatory options, Initiatives and compliance alternatives. These final economic analyses shall assess the private and societal benefits and costs, and their distribution throughout the economy. In addition, the The final economic analyses report shall consider the economic achievability of the regulatory options. Economic analyses shall be performed in a manner prescribed by U.S. EPA “Guidelines for Preparing Economic Analyses” (2010) and OMB Circular A-4, “Regulatory Analysis”.

The contractor shall use the Integrated Planning Model (IPM) to asses the economic impact of the Steam Electric rulemaking on the Electric industry. The Contractor shall perform no more than 1 run of the model to determine baseline modeling impacts. ***This task need additional hours based on the coordination meeting with OP and ORCR and comments from industry.***

A.2.Economic and Regulatory Analysis

Deliverables and schedule under Task 5

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM. The final date for material will be August 29, 2014.

Deliverables and schedule under Task

Draft memos and analysis

Final memos and analysis

Task-7 Final Analysis and reports of Other Statutory and EO Requirements

The contractor shall provide support for the analyses required under statutes such as the UMRA and the National Technology Transfer and Advancement Act (NTTAA), among others; EOs such as Federalism, Protection of Children’s Health, Consultation and Coordination with Indian Tribal Governments; Environmental Justice; and Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use; among others. The contractor shall also provide support for the Administrator’s priorities, which include protection of watersheds and urban waters, environmental justice, improved controls on stormwater and nutrients, improvements to benefits analysis, and market incentives. The EPA shall make all decisions related to the applicability of these statutes and EOs to its actions. ***This Task need additional hours to support EPA’s ongoing initiative to better reflect Environmental Justice and it’s impacts.***

A.5. Analysis of Other Statutory and EO Requirements

Deliverables and schedule under Task 7

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM. The final date for material will be August 29, 2014.

Deliverables and schedule under Task

Draft memos and analysis

Final memos and analysis

Task -8 Review and Analysis of Public Comments

The contractor shall review, code and assist the WAM with responding to public comments on the Final Regulatory Impact Analysis (RIA) and Benefits Cost Analysis (BCA) regulations, Notices of Data Availability and studies. The contractor shall provide technical support for EPA's activities to classify, analyze, and respond to comments. Based on an analysis of comments, the contractor shall provide information to the EPA to use in responding to comments on economic, financial, cost and benefits. The contractor shall establish and maintain database systems in support of the public comment process in support of ELGs and the ELG planning process. *This task need additional hours due to the volume of comments received.*

C.2. Review and Analysis of Public Comments

Deliverables and schedule under Task 8

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM. The final date for material will be August 29, 2014.

Deliverables and schedule under Task 8

Draft comments responses and analysis

Final comments responses and analysis

Task-9 Benefit Analysis

The contractor shall continue to provide technical support for developing creative and innovative ideas to improve regulatory and non-regulatory benefits analyses supported by comprehensive environmental assessments. The contractor shall develop potential regulatory and non-regulatory options, and assess the impacts of effluent guidelines and other regulations on affected communities. To the extent possible, the contractor shall identify, quantify, and monetize the benefits of regulatory options. Benefits may take the form of direct and indirect market-use benefits, direct and indirect non-market use benefits, as well as non-use benefits.

Examples include human health benefits, recreational benefits, benefits of ecosystem services, and economic productivity. *This task need additional hours due to comments received from industry and OW to find better methods to assessed human health and ecological impacts.*

A.2.2. Benefit Analysis

Deliverables and schedule under Task 9

The EPA WAM may ask for version to be delivered at any point, the deliverables under this task is due within 7 days after technical direction received from the WAM. The final date for material will be August 29, 2014.

Deliverables and schedule under Task 9

Draft comments responses and analysis

Final comments responses and analysis

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-06

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Effluent Guidelines

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

1, 2, 3, 4, 5, 6 and 7

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/12/2013 To 07/31/2014

This Action:

707

Total:

707

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Karen Milam

Branch/Mail Code:

Phone Number 202-564-9752

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: Economic Assessment for the Unconventional Oil and Gas Extraction Effluent Limitations Guidelines and Standards

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-06

III. Estimated Period of Performance: Upon Issuance to September 10, 2014

IV. Estimated Level of Effort: 707 Hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Karen Milam
OST/EAD (4303T)
202/564-9752
202/566-1053 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards). Similarly, the CWA directs EPA to review existing effluent guidelines annually and pretreatment standards from time to time.

Recent advances in horizontal drilling and hydraulic fracturing have made the extraction of natural gas from coal bed, shale, and tight sands formations more technically and economically feasible than in past decades. These advanced (or unconventional) drilling techniques coupled with large gas reserves in rock formations around the country, have resulted in dramatic increases in the number of wells being drilled and hydraulically fractured in the U.S. The U.S. Department of Energy projects that U.S. dependence on unconventionally extracted gas from coalbed, shale, and tight sands will substantially increase. EIA's 2012 Annual Energy Outlook is forecasting that 77% of domestic natural gas produced in 2035 will be from coal-bed, shale, and tight sands.

As the number of unconventional gas wells in the U.S. increases, so too does the volume of wastewater that requires disposal. Wastewater associated with unconventional hydro-fractured gas extraction can contain high total dissolved solids (TDS), fracturing fluid additives, metals, and naturally occurring radioactive materials (NORM).

EPA has decided to initiate a rulemaking to modify the existing effluent guidelines limitations and standards (ELGs) for the Oil and Gas Extraction Point Source Category to include pretreatment standards for wastewater discharges from unconventional oil and gas extraction (UOG) wastewaters. In general, EPA estimates potential costs of new source standards and their impact on the entry of new firms into the marketplace. The Agency also monetizes environmental and human health benefits associated with ELGs.

As well, in the 2012 Preliminary ELG Plan, published on August 7, 2013, EPA announced that it is proposing to discontinue revisions to the Oil and Gas ELGs to regulate pollutant discharges from the coalbed methane extraction (CBM) industry. The Economic Analysis for Existing and New Projects in the Coalbed Methane Industry was published to support this finding. After reviewing financial data pertaining to this industry (including natural gas price projections from the U.S. Energy Information Administration), wastewater quality/quantity data and the cost of available wastewater treatment options, it appears that EPA may not be able to identify a wastewater treatment technology that would be economically achievable for this industrial subcategory. Although potential treatment technologies may exist, these technologies do not appear to be economically achievable due, in part, to the decrease in gas prices as a result of the recent boom in development of shale gas resources.

The purpose of this work assignment is to provide contractor tasks to support EPA's development of effluent limitations guidelines (ELGs) and related support materials for the unconventional oil and gas industry.

Given the financial methodology knowledge that this subject matter brings, the WA also includes a task to support financial knowledge support for a BPJ analysis related to Alcoa Inc. The contractor will leverage basic concepts of analyzing financials to support this task.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted. The contractor will break out financial dollars and LOE reports for each Task 6 and Task 7 separate from the rest of the WA financial and LOE reports.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall be required to travel under this work assignment. Travel may be asked to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the

contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment, or October 18, 2013, whichever date is later.

Task 2 Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data). The activities being performed under this work assignment also are a continuation of work previously initiated under a precursor to this contract. Upon receipt of this work assignment, the Contractor shall review the previously approved **Economic Assessment for the Shale Gas Effluent Limitation Guideline Quality Assurance Project Plan** and update it to reflect any new information. The revised version of the QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives—including search engines, federal databases, EPA data bases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The revised QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The Contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. If the contractor already has an approved Programmatic QAPP (PQAPP), the contractor may prepare the revised QAPP in the form of a Supplemental QAPP (SQAPP) instead of as a traditional stand-alone QAPP. If choosing to do so, the Contractor must specifically indicate which aspects (sections) of the PQAPP are being modified in the SQAPP. **Table 1-2** at the end of this Work Assignment identifies elements applicable to QAPPs for Existing Data Projects. Regardless of which format (i.e., SQAPP or traditional QAPP) is chosen when updating the previously approved QAPP, the Contractor shall address each element in Table 1-2 that is applicable to the environmental data operations performed under this work assignment.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the

data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Upon delivery of WA to the contractor, EPA WAM will deliver the previous QAPP for use in drafting the updated QAPP. Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the specific areas identified in Table 1-2 at the end of this WA.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented in the Contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP or SQAPP, and with the Contractor's approved PQAPP (if applicable).
- Any and all deviations from the Contractor's previously approved QAPP (and, if applicable, PQAPP) must be documented in the revised QAPP or SQAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP or SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP or SQAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP or SQAPP is not fully approved (signed) within 50 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve gathering, evaluating, analyzing, and otherwise using existing environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data

and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2.6 Task Deliverables

Deliverable	Projected Schedule Date
Updated QAPP or SQAPP	Within 15 days after submittal of the Work Plan
Revised version of the updated QAPP or SQAPP reflecting EPA comments, if needed	Within 10 days of receipt of EPA comments on initial submission
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may

direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 – Update Industry Profile Memorandum for the Oil and Gas Extraction Sector

The contractor shall update the memorandum characterizing, from public sources, the oil and gas extraction sector (NAICS code 21111) that was developed under WAs 5-31 and 6-31 of contract EP-C-07-023. Making use of public data, the memo will be expanded to not only concentrate on shale gas, oil and gas operators, but it should include information on coalbed methane and other unconventional gas extraction sectors. This product shall be formatted as a standalone memorandum that can easily be made into an introductory chapter for a development document. The profile should include a discussion of the financial health of the oil and gas extraction sector, addressing issues such as consolidation, small business characteristics, and regulations (both currently in place and new potential regulatory efforts) that may affect the sector's profit margins, the geographic distribution of firms and how the spatial dispersion may impact financial and business decision making, pipeline impacts on oil and gas extraction firms, and differing customer bases and developing regional gas markets. The profile shall also include an industry outlook section. The contractor, to the extent feasible, should characterize cost of capital for the sector, reporting metrics like customary debt to equity ratios, bond yields, etc. The contractor shall characterize how oil and gas operators make decisions about investment in shale gas, coalbed methane, and other unconventional gas projects. As a corollary, the profile should contain a generalized decision framework that a typical firm might use in assessing the profitability of new and existing projects. For example, what are the key financial ratios that firms in this industry use when assessing the attractiveness of new projects. The memorandum shall also explore how firms may make development decisions between shale gas, coalbed methane, wet gas, oil plays, etc.

Deliverables and schedule under Task 4

4a. Annotated outline identifying where and with what updates would be made to the industry profile is due within 5 calendar days of written technical direction received from the EPA WAM. The industry profile developed under WAs 5-31 and 6-31 of contract EP-C-07-023 will be provided by the EPA WAM when technical direction is issued.

4b. A draft revised oil and gas extraction sector industry profile is due within 45 calendar days of written technical direction received from the EPA WAM.

4c. If additional edits are required, the oil and gas extraction sector profile must be updated within 14 calendar days of written technical direction received from the EPA WAM.

Task 5 - Provide Technical Support for Rulemaking Activities

The contractor shall, based on technical direction given by the EPA WAM, provide technical support related to economic cost and benefit monetization issues associated with UOG activities. Such support may include responding to management questions about economic or benefits monetization issues and preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). If support is requested within this WA period of performance it would consist of up to 10 slides for a powerpoint presentation. The contractors may also be directed to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking, provide draft technical responses to comments from notices including all relevant citations, assist with the development of the oil and gas survey sample frames, assist with Centralized Wastewater Treatment questions and financial understanding in relation to the UOG effort, support small business assessment and scoping for the rule, assist in response to ICR Federal Register comments, and assist in the development of the rulemaking record.

Deliverables and schedule under Task 5

5a. Draft deliverables are due within 7 calendar days of written technical direction received from the EPA WAM or as otherwise specified in technical direction.

5b. If additional edits are required, the draft deliverable must be updated within 7 calendar days of written technical direction received from the EPA WAM.

Task 6 - Provide Comment Response and Technical Support for CBM Activities

LOE estimate 200 hours

The contractor shall, based on technical direction given by the EPA WAM, provide technical support related to comment/response effort to the proposed delisting of CBM rulemaking effort in the 304(M) plan. Such support may include responding to management questions about economic or benefits monetization issues, preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations), and providing written comment responses to comments on the CBM economic document produced under WAs 5-31 and 6-31 of contract EP-C-07-023. If management questions support is requested within this WA timeframe it would consist of up to 2 slides for a powerpoint presentation. The contractors may also be directed to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking, assist in response to ICR Federal Register comments, and assist in the development of the rulemaking record. The contractor may be directed to use data from comment/response to finalize/revise the Economic Analysis for Existing and New Projects in the Coalbed Methane Industry document developed under EP-C-07-023.

Deliverables and schedule under Task 6

6a. Draft deliverables are due within 30 calendar days of written technical direction received from the EPA WAM.

6b. If additional edits are required, the draft deliverable must be updated within 14 calendar days of written technical direction received from the EPA WAM.

Task 7 – Support for Alcoa Memo

LOE estimate 200 hours

The contractor will review and edit the BPJ Analysis for Alcoa: Massena Operations (Massena East) (33 pp.) and supporting Excel documents provided by the EPA WAM after discussions with Alcoa, New York State, and Region 2. The purpose of the document is to present preliminary results of the economic achievability of a variety of treatment technologies to support a BPJ limit for fluoride in the NPDES permit regulating the discharge of wastewater from Alcoa's Massena East plant in Massena, NY. The contractor will work with EPA to ensure that the current and long-term reality of Alcoa's financial health and the aluminum industry's financial health are accurately reflected in this document, and that the conclusion is reflected reasonably given the content of the report. The contractor will suggest edits or document reorganization that would ensure a reader's understanding of the current and long-term reality of Alcoa's financial health, the aluminum industry's financial health, and the conclusion that the technology options presented in the document are in fact affordable for Alcoa Inc.

This document will be shared with Region 2, New York State, and Alcoa Inc.

Deliverables and schedule under Task 7

7a. Draft deliverables are due within 30 calendar days of written technical direction received from the EPA WAM.

7b. If additional edits are required, the draft deliverable must be updated within 14 calendar days of written technical direction received from the EPA WAM.

Table 1-2. QAPP Elements Applicable to Projects that Rely on Existing Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	X		
Organization's name		X	New Contract
Effective date and/or version identifier	X		
Dated signature of Organization's project manager		X	New Contract
Dated signature of Organization's QA manager		X	New contract
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		
Revision History		X	
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	N/A		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization		X	New Contract
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.		X	New Contract
Organization chart shows lines of authority & reporting responsibilities		X	New Contract
Project QA manager position indicates independence from unit collecting/using data		X	New Contract
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X	Minimal review and edit needed
Identifies project objectives or goals		X	Minimal review and edit needed
Historical & background information		X	Minimal review and edit needed
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X	Minimal review and edit needed
A6. Project/Task Description			
List measurements to be made/data to obtain		X	Minimal review and edit needed
Notes special personnel or equipment requirements		X	Minimal review and edit needed
Provides work schedule	N/A		
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5		X	Minimal review and edit needed
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	N/A		
Discusses how this training will be provided/the necessary skills will be assured and documented	N/A		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	N/A		
Identifies final work products that will result from the project	N/A		
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	N/A		
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals	X		
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	X		
If project includes development or update of a project database, QAPP identifies and defines each database field		X	Too early in the project to know.
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		
If literature searches are used, describes the search engines that will be used and key search terms	X		
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	X		
For other potential sources, describe the potential sources & rationale for considering or using each one	X		
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		
Explains rating system used to evaluate source against each criterion	X		
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X	
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)		X	

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element		X	Too early in project
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly		X	Too early in project
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units		X	Too early in project
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		
C3. Merging or Uploading Electronic Data from Existing Sources			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	X		
Describes who will be responsible for access to and maintenance of the stored data	X		
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Describes how these determinations will be documented and reported	X		
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives	X		
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		
Includes applicable calculations and equations (if known) or explanations of how they will be developed	X		
Includes plans for excluding outliers		X	Too early in project
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes		X	New Contract
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		
Describes how the results of this assessment will be documented	X		
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-06

☐ Other☒ Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/12/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Karen Milam

Branch/Mail Code:

Phone Number 202-564-9752

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

I. Title: Economic Assessment for the Unconventional Oil and Gas Extraction Effluent Limitations Guidelines and Standards

The purpose of this task is to support environmental assessment-related work on the unconventional oil and gas rule. Work under this task is a continuation of work performed under Abt Contract Number EP-C-07-023, PWS 5-30. Under this task the contractor shall update the Literature Review of Environmental Concerns and Documented Impacts of Shale Gas Extraction to Land and Surface Waters Database and accompanying “Draft Summary of Literature Review of Environmental Concerns and Documented Impacts of Shale Gas Extraction to Land and Surface Waters” memorandum prepared under PWS 5-30. The contractor may also be asked to provide technical support for environmental assessment-related rulemaking activities such as responding to technical questions, preparation of brief technical memos, and assembly and uploading of rulemaking docket materials.

The work performed under this work assignment shall not duplicate work conducted under the previous work assignment. The contractor shall report expenses for Task 8 as a subtotal within the Monthly Progress Reports for PWS 0-06.

Task 8.1 – Update Literature Review and Memorandum Summarizing Environmental Concerns and Documented Impacts

The contractor shall update the Literature Review of Environmental Concerns and Documented Impacts of Shale Gas Extraction to Land and Surface Waters Database and accompanying “Draft Summary of Literature Review of Environmental Concerns and Documented Impacts of Shale Gas Extraction to Land and Surface Waters” memorandum prepared under PWS 5-30 by reviewing previously accessed data sources. Additionally, the contractor shall update the literature review database and literature review summary memorandum with documents supplied to the contractor by the WAM.

The contractor shall deliver the draft literature review summary memorandum for EPA WAM review. The contractor shall incorporate EPA WAM comments into a final memorandum.

Deliverables and Schedule Under Task 8.1

8.1. Draft literature review summary memorandum is due May 1, 2014.

8.1. Final literature review summary memorandum and literature review database are due one month after contractor receipt of WAM comments on the draft literature review summary memorandum.

Task 8.2- Environmental Assessment-related Technical Support for the Unconventional Oil and Rule

The contractor shall, based on technical direction from the EPA WAM, provide technical support for environmental assessment-related tasks for the proposed unconventional oil and gas rule such as responding to technical questions, preparing no more than two brief technical memos of less than five pages, assembly and uploading of rulemaking docket materials, and archiving of rulemaking project files. The contractors may also be directed to assist with preparation of briefing materials, assist Agency staff in their review of analyses conducted by EPA and its contractors, and provide technical review of materials prepared for the rulemaking by Agency staff. Although a precise number of technical support requests cannot be given at this time, EPA expects the number to be between 2 and 4. For the purpose of costing, the contractor should assume that 2 of these requests require quick responses.

The contractor shall submit draft deliverable materials to the EPA WAM for review and comment. The contractor shall incorporate the EPA WAM’s comments and produce final versions of the materials incorporating the EPA WAM’s comments.

Deliverables and Schedule Under Task 8.2

8.2. Draft deliverables are due July 1, 2014, unless the deliverable date is altered by written technical direction from the WAM.

8.2. Final deliverables are due July 28, 2014, unless the deliverable date is altered by written technical direction from the WAM.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-06

☐ Other ☒ Amendment Number:

000002

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Amendment 2

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

The purpose of this amendment is to add Task 9, Support for Study of Centralized Wastewater Treatment.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 852

09/11/2013 To 07/31/2014

This Action:

0

Total:

852

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Karen Milam

Branch/Mail Code:

Phone Number 202-564-9752

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

**WORK ASSIGNMENT 0-06
AMENDMENT 2**

I. Title: Economic Assessment for the Unconventional Oil and Gas Extraction Effluent Limitations Guidelines and Standards

Contractor: **Contract No.:** EP-C-13-039

II. Work Assignment Number: 0-06

III. Estimated Period of Performance: Upon Issuance to July 31st, 2014

IV. Estimated Level of Effort: 365 Hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Karen Milam
OST/EAD (4303T)
202/564-9752
202/566-1053 (fax)

VII. Purpose of the Amendment

The purpose of this amendment is to add Task 9, Support for Study of Centralized Wastewater Treatment, to the Work Assignment.

Task 9 – Support for Study of Centralized Wastewater Treatment

EPA Estimated Total LOE for Task 9: 365 hours

Purpose:

Based on information collected during the Shale Gas Extraction rulemaking, EPA requires support in development of a study to evaluate the centralized waste treatment category, specifically facilities that manage wastewater from oil and gas extraction activities.

EPA currently regulates discharges from the CWT category pursuant to effluent limitations guidelines and standards (collectively referred to as ELGs) found at 40 CFR Part 437. Some of these facilities accept wastewaters from oil and gas extraction activities. However, the treatment technologies used by some CWT facilities are not amenable to treatment of pollutants that may be found in oil and gas wastewaters, such as total dissolved solids (TDS) and radioactivity.

The purpose of this task is to support development of a study to evaluate the centralized waste treatment category.

The work performed under this work assignment shall not duplicate work conducted under the previous work assignment. The contractor shall report expenses for Task 9 as a subtotal within the Monthly Progress Reports for PWS 0-06.

Task 9.1 – Technical Support for Preparation of Preliminary Data Summary of the Centralized Waste Treatment Industry

The contractor shall provide technical support to EPA in enhancing the preliminary data summary (or study) of the CWT industry with a financial understanding of the present and outlook of the CWT industry.

The recent increase in oil and shale gas extraction activities through practices such as hydraulic fracturing has created new challenges with respect to management of wastewaters. Flowback and produced waters from oil and gas extraction activities can contain a variety of pollutants, notably high levels of TDS and, depending on the formation, naturally occurring radioactivity. In addition, additives such as friction reducers and biocides are frequently utilized during well development and can contribute to wastewater pollutant loads.

While many wastewaters are recycled and reused by producers, treatment and discharge is needed in certain cases. Where these wastewaters are being managed by treatment and discharge at CWT facilities, there is the potential of discharge of pollutants of concern to Waters of the U.S. Some CWT facilities that are accepting these wastewaters, or may potentially accept these wastewaters in the future, may not have advanced treatment in place that is amenable to removal of the pollutants of concern. The study will evaluate the full spectrum of wastewater management practices at CWT facilities accepting oil and gas extraction wastewaters, including treatment and discharge, recycling, zero discharge, barrel-in/barrel-out, etc.

The goal of the study is to evaluate current trends in the CWT industry with respect to oil and gas extraction wastewater management and to estimate, to the extent feasible, future industry trends at CWT facilities resulting from current and predicted oil and gas extraction wastewater management practices. For the purposes of this task, the contractor will revise, update, and expand upon the Centralized Waste Treatment (CWT) industry characterization work initially conducted under Abt Contract EP-C-07-023 work assignment 3-05. This product shall be formatted as a standalone memorandum. The profile should include a discussion of financial health of the industry, addressing issues such as consolidation, small business characteristics, and regulations that may affect the industries profit margins. To the extent possible with public information and material developed by EPA Engineers the industry profile should also characterize those CWT that are currently receiving oil and gas waste streams. The profile should also look at pricing power with the CWT industry. The profile shall conclude with an industry outlook.

The contractor will need a 1-year access to the RMA data to update Section 8 of the CWT industry profile. The contract may purchase this data under this task.

To obtain the necessary data for developing the study, EPA anticipates conducting site visits to a number of facilities (Task 9.2). EPA also anticipates using Clean Water Act § 308 authority to

collect information and data, such as wastewater treatment practices and costs, from nine or fewer centralized waste treatment companies, and/or oil and gas operators. The contractor shall assist EPA with the technical aspects of these activities, such as developing lists of questions and compiling information received.

Other potential data sources that the contractor may utilize in developing the study include technical and scientific literature, commercial data sources, vendors, internet searches, and state regulatory agencies. EPA shall provide data from Hoover/Dun & Bradstreet for review and summary by the contractor. In addition, data collected under Task 9.2 is expected to be a primary source of financial information for a facility and company.

Under a separate effort, EPA will also be collecting information related to engineering aspects of the industry as well as environmental impacts associated with discharges from this industry. The cost and performance information obtained under the separate effort may be used as inputs for future analyses. The contractor shall therefore consult with EPA and the engineering contractor regarding use of data and information collected for future analyses, and provide support activities as directed.

The contractor shall maintain an index of all data, studies and information obtained and generated and shall deliver this index on a monthly basis.

Task 9.2- Site Visits

The contractor shall provide support to EPA in conducting site visits at CWT facilities that accept oil and gas extraction wastewaters. Support shall include attending conference calls with engineering contractor and facility personnel to obtain detailed facility information, obtaining financial information from facilities (cost of capital for the firm, number of employees, financing structure, information on the rates of local hiring and subcontractors use, etc.), providing financial and economic memos after site-visits, and conducting follow-up activities. Questions should also attempt to characterize the CWT's relationship to oil and gas operators in terms of the percent of total revenue, their pricing power (ability to pass treatment cost on to oil and gas firms), and other systematic relationships with oil and gas operators. The contractor shall attend site visits in order to obtain, evaluate and document facility information. For purposes of preparing a cost estimate, the contractor shall assume that up to three (3) one-day site visits will be conducted to facilities across the U.S. during this work assignment period of performance. The contractor shall prepare draft and final financial memos for the facility visited as indicated in the Task 5 Deliverables Table below. Financial memos shall include detailed documentation of information obtained during the site visits.

Task 9.3- Technical Support for the CWT study

Using information provided by the WAM, along with information gathered or developed by the contractor, the contractor shall assemble information, create and/or modify documents and perform analyses related to centralized waste treatment facilities as directed by the WAM through written technical direction. The tasks may include work such as:

- Summarizing data to brief management
- Collecting and analyzing secondary data

- Attending meetings or preparing materials and participating in meetings, conferences and workshops to support EPA's outreach activities to the public and industry (these materials may include reports, brochures, maps, or other presentation materials)
- Attending centralized waste treatment industry technical meetings and/or conferences as directed by EPA (e.g., 2014 Northeastern Agricultural and Resource Economics Association (NAREA) Workshop on Unconventional Shale Gas and Oil Development will be held at the Waterfront Place Hotel in Morgantown, West Virginia immediately after the NAREA Annual Meeting. The NAREA Workshop will take place on June 3-4)

For purposes of preparing a work plan, the contractor shall assume that there shall be approximately two written technical directives requiring quick turn-around and the contractor may be asked to attend one conference.

Task 9 Deliverables

Deliverable	Projected Schedule Date
Updated Draft CWT Industry Profile	June 10th, 2014
Final CWT Industry profile	July 31 st , 2014
Review and Summary of Dunn & Bradstreet information	Initial review due by May 16 th ; completed review and summary due by June 30 th
Draft Financial Memo on facility/firm	14 Days after completion of site visit
Final Financial Memo on facility/firm	14 Days after receipt of comments from EPA

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-06

☐ Other ☒ Amendment Number:

000003

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Amendment 3

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

Add James Covington as Alt WAM

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/11/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Karen Milam

Branch/Mail Code:

Phone Number 202-564-9752

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

**WORK ASSIGNMENT 0-06
AMENDMENT 3**

I. Title: Economic Assessment for the Unconventional Oil and Gas Extraction Effluent Limitations Guidelines and Standards

Contractor: **Contract No.:** EP-C-13-039

II. Work Assignment Number: 0-06

III. Estimated Period of Performance: Upon Issuance to July 31st, 2014

IV. Estimated Level of Effort: 0 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): Karen Milam
OST/EAD (4303T)
202/564-9752
202/566-1053 (fax)

VII. Purpose of the Amendment

The purpose of this amendment is to add James Covington, as the Alternate WAM. There is no LOE needed for this

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-07

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Enhancement of WMOST

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Sections A2,B1,C1,D1,D2

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 04/01/2014 To 07/31/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/12/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Naomi Detenbeck

Branch/Mail Code:

Phone Number 401-782-3162

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: ENHANCEMENTS TO THE WATERSHED MANAGEMENT OPTIMIZATION SUPPORT TOOL (WMOST)

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-07

III. Estimated Period of Performance: Date of issuance through August 31, 2014

IV. Estimated Level of Effort: 473

V. Key EPA Personnel:

Work Assignment Manager (WAM): Naomi Detenbeck
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VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to update the EPA-supported Watershed Management Optimization Support Tool (WMOST v. 1; US EPA 2013a,b) for use in Integrated Planning (<http://water.epa.gov/infrastructure/greeninfrastructure/upload/memointegratedmunicipalplans.pdf>) and Integrated Water Resources Management (IWRM; Zoltay 2007, Zoltay et al. 2010). WMOST will be modified to add a module to evaluate the effect of watershed management options (including the use of green infrastructure stormwater BMPs) on flooding risks and costs.

The WMOST software is a contract deliverable and is being provided to EPA with "unlimited rights," as that term is defined in FAR 52.227-14(a) (1987). The new module will be evaluated through application to a case study in the Taunton River watershed in Massachusetts.

The WMOST tool currently focuses on maintaining minimum flows adequate to support aquatic life use as well as meet human water demands (US EPA 2013a, b). WMOST is designed to be a user-friendly decision support tool to allow communities to evaluate and optimize the relative costs and benefits of water resource management options, including implementation of green infrastructure stormwater best management practices (BMPs), land conservation, low impact development (LID), water re-use, aquifer storage and recovery, and repair of existing infrastructure to fix infiltration/inflow problems. The tool has been demonstrated with pilot studies (upper Ipswich, Danvers/Middleton).

Previous modeling simulations have suggested that GI can have a significant effect on extent of flooding for smaller frequent storms, with diminishing effectiveness for larger storms (e.g., a 100-year flood – See Figure 1). For the small (13.9 mil²) watershed modeled for the case study of Medina et al. (2011), the annualized cost of flood-related damages was equivalent to 20% of the cost of retrofitting the highly urbanized watershed (39% impervious) with GI stormwater BMPs. The net benefit for GI implementation would be even greater if other co-benefits and avoided costs were accounted for and/or if the exercise were conducted for a less-developed watershed in which new GI was incorporated into the planning process.

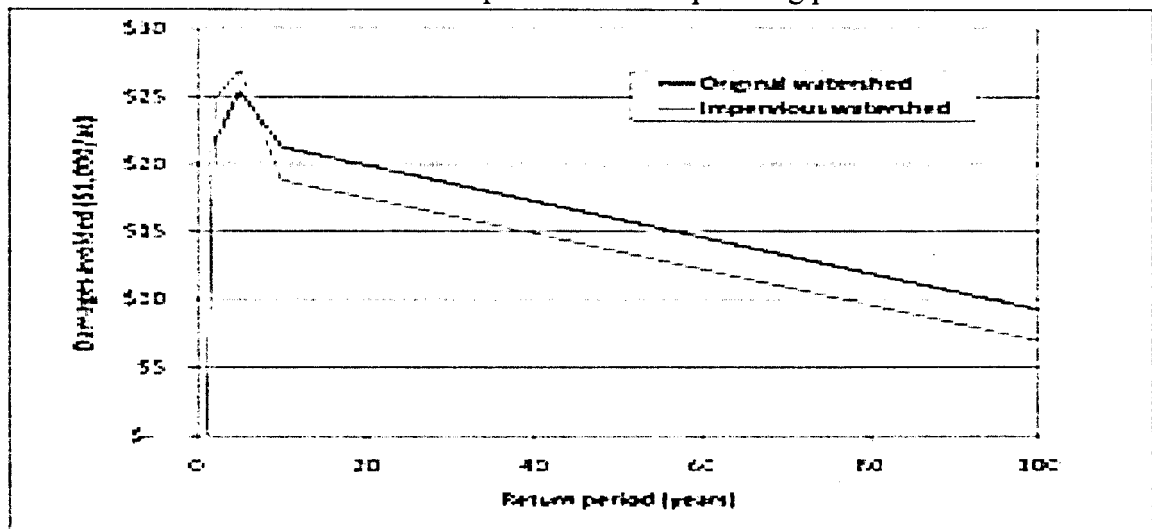


Figure 1.

Estimated real estate damage avoided (\$1000/acre floodplain) by capturing and infiltrating 1.6" of runoff in a small watershed in the SE U.S. as a function of flood return period and soil perviousness levels (from Medina et al. 2011).

WMOST currently requires time series of unit runoff and recharge coefficients generated from prior runs of models such as HSPF or SWAT to generate base scenarios. Post-management scenarios can either be based on prior watershed model runs or by using output from the watershed models as input to the EPA Region 1 BMPDSS tool which contains long-term performance curves for green infrastructure stormwater BMPs in New England.

In light of weather extremes anticipated under climate change, the goal of this work assignment

is to refine WMOST to allow communities to optimize solutions and evaluate costs and benefits for managing peak flows as well as minimum flows and to incorporate the ramifications of climate change into their planning processes. This refinement will 1) enable explicit comparisons of optimization solutions for wet and dry years, 2) facilitate evaluation of climate change scenarios, 3) reduce community need to depend on prior watershed model runs by automating the prediction of added benefits of green infrastructure stormwater BMPs, and 4) explicitly incorporate economic damages related to flooding into optimization solutions. The new version of WMOST will be tested in collaboration with one or more communities in the Taunton River Watershed, in coordination with the 3VS Sustainability Pilot for Narragansett Bay.

The objective is to create an updated version of WMOST which will include improved functionality to explore the effect of climate variability and climate change on cost-benefit analyses and optimum solutions for integrated water resources management at the community scale. The first goal is to improve communities' access to base data required to run WMOST. Rather than requiring water resource managers or their consultants to track down existing HSPF/SWAT model output and extract unit runoff and recharge coefficients, this project will compile data from existing HSPF model runs for the Taunton River Basin only. (Compilation of HSPF model output for model runs across New England may be added to a future option period, contingent upon funding.) Existing calibrated models will be run for a time period sufficient to incorporate the current range of climate variability and modeled discharge will be used as input to the EPA Region 1 BMPDSS tool to generate time series of BMP performance (infiltration)..

Refinements to WMOST will allow explicit comparison of optimization solutions for wet and dry years based on the assessments of BMP performance simulated with historic climate data from a Boston weather station performed during the development of EPA Region 1 BMPDSS (BMP Decision Support Tool). WMOST will be modified to accept input from EPA's Climate Resilience Evaluation & Awareness Tool (CREAT), which provides access to downscaled climate change scenarios (<http://water.epa.gov/infrastructure/watersecurity/climate/creat.cfm>) and/or the BASIN Climate Assessment Tool (CAT; <http://water.epa.gov/scitech/datait/models/basins/bsnsdocs.cfm#climate>) and can be used to project changes in probability of 24 hour precipitation events for different recurrence intervals.

EPA will identify one or more pilot communities in the Taunton River watershed for which the revised WMOST tool will be applied to evaluate cost effectiveness of management tools to minimize flooding risk. This geographic focus will allow coordination with both the ongoing work of EPA Region 1 under EPA's Healthy Watershed Initiative in the Taunton River watershed and with the joint ORD/EPA Region 1 3VS Model Sustainability Pilot for the Narragansett Bay watershed. Potential case study communities within the watershed are being prioritized based on the coverage of an existing HSPF model (Barbaro and Sorensen 2012), existing flood studies (FEMA 2013a,b), coverage of existing public utilities for drinking water and wastewater, location of existing low flow and flooding problems related to development, and community interest. EPA Region 1 (Trish Garrigan, liason for EPA's Healthy Watershed Initiative Taunton Pilot) is communicating with potential pilot communities about their interest and willingness to participate. EPA will also provide input to the new WMOST tool (WMOST v. 2) to describe the flood cost function(s) associated with floods of varying magnitudes for the

communit(ies) of concern using a combination of HEC-RAS (new or existing model runs; FEMA 2013a,b) and the ArcMap HAZUS extension developed by FEMA (<http://www.fema.gov/hazus>). Finally, EPA-ORD will provide information needed to set targets for protection of aquatic life use (aquatic community and habitat), based on the results of a previous Regional Applied Research Efforts (RARE) project with EPA Region 1 and ongoing research under EPA ORD's Green Infrastructure Initiative research program. The contractor shall be responsible for updating WMOST v.1 and for evaluating WMOST v.2 with the communit(ies) case study.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that will be based on Task 2 QAPP language. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary environmental and economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WA 6-32 and 5-32 under the Contract EP-C-07-023. The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

References cited in Background

Barbaro, J.R., and Sorenson, J.R., 2013, Nutrient and sediment concentrations, yields, and loads in impaired streams and rivers in the Taunton River Basin, Massachusetts, 1997–2008: U.S. Geological Survey Scientific Investigations Report 2012–5277, 89 p., at <http://pubs.usgs.gov/sir/2012/5277/>.

FEMA. 2013a. Flood Insurance Study: Plymouth County, Massachusetts (vol. 1-4). Federal Emergency Management Association. FLOOD INSURANCE STUDY NUMBER 25023CV001B.

FEMA. 2013b. Flood Insurance Study: Bristol County, Massachusetts (vol. 1-4). Federal Emergency Management Association. FLOOD INSURANCE STUDY NUMBER 25005CV001B.

U.S. EPA. 2013a. Watershed Management Optimization Support Tool (WMOST) v1: Theoretical Documentation. US EPA Office of Research and Development, Washington, DC, EPA/600/R-13/151, 2013.

U.S. EPA. 2013b. Watershed Management Optimization Support Tool (WMOST) v1: User Manual and Case Study Examples. US EPA Office of Research and Development, Washington, DC, EPA/600/R-13/174, 2013.

Zoltay, V.I. 2007. Integrated watershed management modeling: Optimal decision making for natural and human components. M.S. Thesis, Tufts Univ., Medford, MA.

Zoltay, V.I., R.M. Vogel, P.H. Kirshen, and K.S. Westphal. 2010. Integrated watershed management modeling: Generic optimization model applied to the Ipswich River Basin. Journal of Water Resources Planning and Management.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel:

EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are

to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView or ArcMap, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

A biweekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

An existing Quality Assurance Project Plan (QAPP), which was developed under WA #4-32 of the contract EP-C-07-023 to describe the development of WMOST v.1, shall be updated to cover the activities of the current work assignment. The contractor shall adhere to the QAPP which documents how quality assurance and quality control will be applied to the collection and use of environmental and economic data under this work assignment. The QAPP assures that any results obtained are of the type and quality needed and expected under this work assignment. The QAPP addresses the collection and use of wastewater sampling data, facility questionnaire data, any models to be used, secondary data (including the acceptance criteria), any new database management requirements and any other relevant work that might affect the quality of the data. The QAPP describes the controls to ensure high-quality data entry. The text of the QAPP also explicitly identifies tools that the contractor will use in the project to document reproducibility

and traceability, such as SOPs, checklists, and guidelines. Tools should be provided as attachments to the QAPP.

The contractor shall document QA activities in any major deliverable. Work conducted under a QAPP must be included in progress reports at least monthly unless otherwise directed by the EPA WAM and include QA performed, problems encountered, deviations from the QAPP and corrective actions taken.

The EPA WAM will review the revised QAPP and then provide the contractor with written notification of approval or edits that need to be made through written technical direction. The contractor shall prepare the edited QAPP incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will adhere to the revised QAPP.

Deliverables and schedule under Task 2

- 2a. Revised QAPP within 14 calendar days of EPA WAM technical direction.**
- 2b. If additional edits are required QAPP must be updated within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 2c. At a minimum report monthly on QA work within the monthly progress report.**

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

- 3a. SNCVC memorandum within 7 calendar days of workplan approval.**
- 3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

Task 4 – Addition of modules to WMOST v.1

The contractor shall explore alternative approaches for incorporating peak flow scenarios into WMOST, ranging from reliance on the current model at a daily time step resolution to a more general probabilistic approach based on flood frequency equations developed for the region (e.g.,

<http://streamstats.usgs.gov/>) to a more involved modeling approach up front. Potential approaches to relating peak flows with flood damages will be explored in a feasibility scoping stage with a Technical Advisory Group set up by US EPA. The simplest approach evaluated will be to build on simple empirical relationships developed by Office of Water during the stormwater rule-making to predict avoided flood losses in 2040 related to implementation of different levels of stormwater retention in areas of new and re-development (L. Hair, pers. comm.). An intermediate approach will be to apply the probabilistic estimation methods developed by AECOM (2013) for a national assessment conducted for the Federal Insurance and Mitigation Administration and FEMA. The most complex approach will be to apply the analytical techniques of Medina et al. (2011) using HEC-HMS (or HSPF substitute) and HEC-RAS to predict areas of inundation. Potential economic damages will be estimated by EPA-ORD for the case study using FEMA's HAZUS model. Built as an extension to the ArcMap geographic information system (GIS) platform, HAZUS is a public domain application used by FEMA and other emergency management organizations to estimate potential losses associated with natural disasters (<http://www.fema.gov/hazus>).

The contractor shall develop and implement each of the three approaches outlined above (empirical, empirical probabilistic, and model-based) as options within a new flood risk evaluation module in WMOST and evaluate the quality of the information derived from each of these options as part of the case study application (Task 5).

The contractor shall also develop and implement a climate scenario module in WMOST to facilitate comparison of WMOST optimization runs for wet and dry years with options for a) using inputs from model runs over an historic period of record that incorporate a range of climate variability or b) using inputs from model runs based on future climate projections from CREAT or CAT.

References cited in Task 4

AECOM. 2013. The Impact of Climate Change and Population Growth on the National Flood Insurance Program Through 2100. Prepared for Federal Insurance and Mitigation Administration and Federal Emergency Management Administration. June 2013.

Medina, D., E. Monfils, and Z. Baccala, (2011), "Quantifying the Benefits of Green Infrastructure for Floodplain Management," *Proceedings of the EWRI World Environmental and Water Resources Congress*, Palm Springs, California.

Deliverables and schedule under Task 4

The following deliverables are anticipated for Option Period 1 of this contract:

- 4a. Draft updated WMOST v.2. tool within 6 months following work assignment 0-07 initiation.
- 4b. If additional edits are required the revised WMOST v.2 tool shall be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 5 – Case study application of WMOST v.2 beta to Taunton River communitie(s)

The contractor shall apply the WMOST v.2 beta version with flooding and climate scenario modules to a pilot study involving one or more communities in the Taunton River watershed in Massachusetts. The contractor shall interact with the communities identified by US EPA to identify and compile data required for the case study and to identify scenarios of interest to be evaluated for the communities. EPA will set up the scoping and demonstration meetings with communities (see Task 6 below). EPA shall obtain the input and output data files (e.g., unit runoff and infiltration rate time series, baseflow recession coefficient) from the USGS HSPF model for the Taunton River for WMOST input. EPA shall extend the application of a watershed model for the portion of the Taunton River watershed of interest based on an historic period of record encompassing wet and dry climate extremes and for climate scenarios obtained from CAT or CREAT. Preferably this will be the HSPF model developed for the Taunton River watershed (Barbero and Sorenson 2012) if this can be obtained from USGS. Potential alternative models include SWAT, HAWQS (if available from EPA Office of Water), or the EPA's Stormwater Calculator with climate scenarios. The contractor shall use the modeled discharge values as input to the EPA Region 1 BMP DSS model to generate modified runoff and infiltration rate time series corresponding to application of green infrastructure BMP options included in WMOST. The contractor shall supply the modified discharge time series to EPA-ORD to allow EPA to run HEC-RAS coupled with HAZUS to generate flood risk/cost estimates associated with different scenarios. It is anticipated that this Task will carry over to Option Period 1.

Deliverables and schedule under Task 5

5a. Draft documentation of data sources for Taunton River community pilot case study at least 15 calendar days prior to August 31, 2014 (to be completed during Option period 1 as Deliverable 5e).

Task 6 – Stakeholder meetings

The contractor shall participate in 4 meetings set up by US EPA with stakeholders in the pilot communit(ies) to accomplish the following:

- a) Provide an initial overview of WMOST and its capabilities to interested stakeholders (2 hrs)
- b) Discuss WMOST data needs with community stakeholders (2 hrs)
- c) Discuss scenarios of interest to WMOST stakeholders in pilot communitie(s) (2 hrs)
- d) (In Option Period 1) Present results of WMOST case study to stakeholders (2 hrs)

The third objective can be accomplished with a series of phone calls and emails in place of or in addition to an initial presentation of data needs if more expedient.

Deliverables and schedule under Task 6

6a. Draft presentation to provide initial overview of WMOST and its capabilities to interested stakeholders within 7 days of written technical direction from WAM.

- 6b. If additional edits are required the draft presentation shall be updated within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6c. Presentation of WMOST overview to interested stakeholders within 7 days of written technical direction of WAM.**
- 6d. Draft description of WMOST data needs for presentation to stakeholders within 14 days of written technical direction from WAM.**
- 6e. If additional edits are required the draft description of WMOST data needs shall be updated within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6f. Participation in discussion of data needs with stakeholders within 7 days of written technical direction of WAM.**
- 6g. Draft list of questions to focus discussion of scenarios of interest to WMOST stakeholders in pilot communities within 7 days of written technical direction from WAM.**
- 6h. If additional edits are required the draft list of discussion questions shall be updated within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**
- 6i. Participation in discussion of scenarios of interest to WMOST stakeholders in pilot communities(s).**

Appendix

The following tasks and deliverables are anticipated to be completed during Option Period 1 of this contract and are listed for the contractor's information only. *No work shall be conducted on any deliverables listed here during the Base Period:*

Task 5 – Case study application of WMOST v.2 beta to Taunton River communitie(s)

5b. Draft updated WMOST v.2. tool with addition of case study data for Taunton River community pilot within 9 months of start of work assignment 0-07 in Option Period 0, to be completed during Option Period 1.

5c. If additional edits are required the revised WMOST v.2 tool shall be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

5d. Draft documentation of data sources for Taunton River community pilot case study within 9 months of work assignment 0-07 initiation in Option Period 0, to be completed during Option Period 1 (WA 1-07).

Task 6 – Stakeholder meetings

6j. Draft Powerpoint presentation of WMOST case study results to stakeholders within 7 calendar days of completion of Task 5 or within 7 calendar days of written technical direction of WAM.

6k. If additional edits are required the draft case study presentation shall be updated within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

6l. Oral presentation of WMOST case study results to stakeholders within 7 days of written technical direction of WAM.

Task 7 – Update of WMOST theoretical documentation and user guide with flooding module and case study results

The final tool formatted to use in MS EXCEL 2010 will be provided along with a set of updated instructions on how to apply WMOST v.2. Abt and EPA agree that the software that is developed under the work assignment (WMOST v.2), including the original software developed by Viktoria Zoltay which is being modified and incorporated into the WMOST versions, is a contract deliverable and is being provided to EPA with "unlimited rights," as that term is defined in FAR 52.227-14(a) (1987). Abt shall update both the existing theoretical documentation for WMOST (US EPA 2013a) and the existing user manual (US EPA 2013b) and provide copies in both Word and pdf formats as deliverables. The theoretical documentation and user manual shall also be provided with unlimited rights. The contractor shall revise the theoretical documentation

and user guide in response to EPA and reviewer comments.

Anticipated deliverables and schedule under Task 7

7a. Draft updated WMOST documentation within 10 months of initiation of work assignment 0-07 in Option Period 0.

7b. If additional edits are required the revised WMOST documentation shall be updated within 14 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 8 – WMOST compatibility

The contractor shall provide information on the compatibility of the WMOST v.2. developed for MS Excel 2010 with MS Excel 2007 and MS Excel 2013 for both 32-bit and 64-bit computers and shall provide an estimate of the feasibility and time required for creating subversions compatible with these combinations. Subject to written technical direction from the WAM, the contractor shall provide additional versions compatible with MS Excel 2010 and with MS Excel 2007 and functional for 32-bit and 64-bit computers.

Anticipated deliverables and schedule under Task 8

8a. Memo documenting the results of testing WMOST v.2. with MS Excel 2007 and MS Excel 2013 and with 32-bit and 64-bit computers, describing any issues requiring modifications, and estimating time required for revisions to ensure compatibility within 14 days of written technical direction of WAM.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-08

☐ Other☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Tri Conference Support

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Tasks 1,2,3,4,5,6,7,8

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

Costs for this Work Assignment not to be accrued prior to the effective date of this form.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/12/2013 To 07/31/2014

This Action:

304

Total:

304

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Christine Arcari

Branch/Mail Code:

Phone Number 202-566-1746

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

- I. Title:** 2014 National Training Conference on TRI and the Environmental Conditions in Communities Support

Contractor: Abt Associates

Contract No.: EP-C-13-039

- II. Work Assignment Number:** 0-08

- III. Estimated Period of Performance:** September 11, 2013 through September 10, 2014

- IV. Estimated Level of Effort:** 304 hours

- V. Key EPA Personnel:**

Work Assignment Manager (WAM): Christine Arcari
OEI/OIAA/EAD (2842T)
202/566-1746

Alternate Work Assignment Manager: Caitlin Briere
OEI/OIAA/EAD (2842T)
202/566-1646

- VI. Background and Purpose:**

EPA's Office of Water participates in multi-media program activities conducted by EPA offices under other environmental and administrative statutes, such as the Emergency Planning and Community Right-to-Know Act (EPCRA) and the Pollution Prevention Act (PPA). Examples of these activities include performing multi-media analysis and identifying pollution prevention opportunities particularly as they relate to management priorities such as environmental justice. The Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment.

TRI provides information on releases of chemicals to water, as well as air and land. The information submitted by facilities is compiled by EPA and supports informed decision-making by industry, government, non-governmental organizations and the public by providing data to assess changes in the amount and type of emissions released to the environment. As part of the TRI program, EPA holds a National Training Conference on the Toxics Release Inventory and Environmental Conditions in Communities, which is the primary outreach event for the program and key to the implementation of the TRI program. The conference includes sessions on TRI data and tools, results of analyses using TRI data, and information on conditions and trends in ecological and human health, including environmental justice communities and children's health.

For the past several years, the TRI National Training Conference has been coordinated by the

Office of Environmental Information's Office of Information Analysis and Access and the Environmental Council of the States through a grant and held in the DC metropolitan area. Spring 2014 is the timeframe for the next conference, which will be co-sponsored by Dillard University's Deep South Center for Environmental Justice, EPA's new grantee for TRI outreach and education.

The 2014 conference will be held over three days in May. The first two days are public conference sessions, and EPA anticipates that those sessions will be attended by approximately 250 participants representing various stakeholder groups, including NGOs, industry, Tribes, academics, other federal agencies, and the private sector. The third day is a session for State TRI and Pollution Prevention coordinators, Tribal representatives, and EPA TRI staff. There are typically approximately 50 participants for the third day of the conference.

The purpose of this Work Assignment (WA) is to provide logistical support for the 2014 National Training Conference on the Toxics Release Inventory and Environmental Conditions in Communities. In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under Technical Directive 6.2 under Contract GS-10F-0086K. The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

VII. General Requirements of the Work Assignment and Schedule

Budget Reporting: The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or

subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Task 2: General Logistical Conference Support

Logistical support will be provided by the contractor prior to the Conference dates to include but not limited to support for securing meeting space; coordinating the sleeping room block; arranging hotel meeting room space (tables, chairs, podium, etc.); coordination with the hotel staff regarding the timing of agenda sessions; and other activities that may be identified during the planning process. No work done under this technical directive will duplicate work done under Contract GS-10F-0086K (EP11H000180).

Task 3: Determining, procuring, paying for all rented audio/visual equipment and related services based on Conference needs

Abt Associates will determine the audio/visual (A/V) needs of the Conference, contract for the rental and delivery of the determined A/V equipment and related services (e.g., hard wired Internet service, presentation equipment, electronically sharing session – see task 4, etc.), and provide payment for all contracted equipment and services. Abt Associates will also obtain a minimum of three quotes from A/V equipment vendors at which time Abt Associates, in

consultation with the US EPA, will select the vendor based on best value.

Task 4: Electronically Sharing Conference Sessions

If directed to do so by US EPA, Abt Associates will obtain the necessary equipment and technical support to execute the previously agreed upon plans to electronically share sessions, provide edited recordings, if necessary, to US EPA after the conference, and other related activities that may be identified during the planning process.

Task 5: Materials for Conference Participants

In consultation with US EPA, Abt Associates will provide folders with conference-related materials for conference participants including but not limited to welcome letter, list of nearby restaurants and attractions, conference agenda, and list of participants. In addition, Abt Associates will design and procure signage for the Conference. Abt Associates will comply with federal regulations and not exceed contractor printing limits. Printing needs are not anticipated to exceed 3,000 pages of black-and-white print. No tchotchkes or other giveaways will be provided by Abt Associates.

Task 6: On-site Logistical Support

Abt Associates will act as liaison between the Conference co-sponsors and hotel event and A/V staff during the Conference. Additionally, Abt Associates will provide on-site logistical support for the Conference including but not limited to coordinating the daily set up of and take down of equipment, tables and chairs, attendee materials, and signs; orchestrating the equipment, technical support and execution of electronically sharing and/or recording conference proceedings; coordinating with on-site A/V staff to ensure that all equipment (e.g., screens, projectors, laptop computers, microphones, recordings, phones, sound board, etc.) functions properly; and other tasks that may be identified during the planning process.

Task 7: Payment to the hotel for meeting room rental fees and not achieving the guest room minimum, should this become necessary.*

Abt Associates will provide payment to the hotel for the meeting room rental fee. Additionally, Abt Associates will provide payment to the hotel for the amount owed for not achieving the guest room minimum, should this become necessary*. (See * below for more details.)

** "Should this become necessary" is used here because if the guest room minimum of 196 guest room nights is achieved, Abt Associates will not be required to pay an amount equivalent to that negotiated in their hotel contract with the selected venue, the Hilton Crystal City. In all likelihood, the guest room minimum will be met and payment to the hotel for not achieving the guest room minimum will not be necessary. In the event there are remaining funds after meeting the above requirements, all such funds shall be de-obligated and provided back to EPA.*

Task 8: Breakdown of costs for 2014 National Training Conference

Abt Associates shall create a breakdown of total costs for the 2014 National Training Conference that spans site selection, planing and logistics, conference execution, and post-conference activities. Categories shall include total labor hours, computer rental, other A/V and Internet costs including technicians, electrical costs, travel, signage, other supplies, and miscellaneous costs. In addition, Abt Associates shall create a summary of costs specific to electronic sharing, including labor, computer rentals, other A/V, and Internet costs. Also, Abt Associates shall include a breakdown of total costs for each part of the conference: public days and EPA/States/Tribes day.

DELIVERABLE SCHEDULE

TASKS	ASSIGNMENTS	DUE DATE
1	Prepare work plan	15 calendar days of receipt
2	General Logistical Conference Support	June 26, 2014
3a.	Determination of A/V equipment needs	March 7, 2014
3b.	Procure necessary A/V equipment	April 1, 2014
3c.	Pay for A/V equipment	June 26, 2014
4a.	Procure necessary A/V equipment	April 1, 2014
4b.	Deliver edited recordings	June 18, 2014
5	Materials for Conference Participants	May 6, 2014
6	On-site Logistical Support	May 7-9, 2014
7	Payment to the hotel (See * above)	June 26, 2014
8	Breakdown of Costs	May 21, 2014

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-08

☐

Other

☒

Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/11/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Christine Arcari

Branch/Mail Code:

Phone Number 202-566-1746

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-09

☐ Other ☐ Amendment Number:Contract Number
EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Title of Work Assignment/SF Site Name

Base ☒ Option Period Number

Revisions to Meta-Analysis

Contractor
ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

2, 2.1, 2.2, 2.3, 3, 6

Purpose:
☒ Work Assignment
☐ Work Assignment Amendment
☐ Work Plan Approval☐ Work Assignment Close-Out
☐ Incremental Funding

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO
(Max 2)

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:
09/12/2013 To 07/31/2014

Cost/Fee:

LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Sudhir Paladugu

Branch/Mail Code:

Phone Number 202-343-9181

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

- I. **Title:** Revisions to Meta-Analysis of Total Willingness-to-Pay for Water Quality Improvements

Contractor: Abt Associates, Inc.

Contract No.: EP-C-13-039

- II. **Work Assignment Number:** 0-09

- III. **Estimated Period of Performance:** Date of issuance through August 14, 2014

- IV. **Estimated Level of Effort:** 1060 hours

- V. **Key EPA Personnel:**

Work Assignment Manager (WAM): Sudhir Paladugu
OST/EAD (4303T)
202/566-0638
202/566-1053 (fax)

Alternate Work Assignment Manager: Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

- VI. **Background and Purpose:**

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to revise the meta-analysis of a household's willingness to pay (WTP) for non-use benefits that result from improvements in water quality.

To support the EPA's rulemaking, an analysis of the benefits resulting from the requirements under consideration has been performed. Cost-benefit analyses support many of the Office of Water's proposed regulations. For several rules, a significant aspect of the benefits considered was based on a model that accounts for each affected household's willingness to pay (WTP) for improvements in water quality. Though WTP values can theoretically be for use, non-use or total (i.e., use plus non-use), EPA is most interested in total WTP, for two reasons. First, some have

postulated that it is difficult for respondents to parse total value into use and non-use values. Second, non-use values are an especially important component of value when it comes to water quality improvements, because ecological systems and services also improve. Non-use benefits can be defined as any benefit separate from past, present or anticipated future uses. These benefits are characterized by the economic value of simply knowing that species/landscapes exist (existence) and the capacity for intergenerational transfer of natural resources (bequest motive). Although there is some debate on the final category, the term non-use is also used sometimes to include preserving the option of using natural resources at an undetermined date (option). Although the existing model of the total WTP has aided the process of rulemaking, a new examination is required to understand if improvements can be made to support future rulemaking.

The existing model of WTP was based on a peer-reviewed meta-analysis that integrated the results of numerous studies. It was used as part of the cost-benefit analyses supporting the following rules:

- * Effluent guidelines and standards for Construction and Development
- * Water quality standards for Florida's estuaries, coastal waters, and South Florida inland flowing waters
- * Effluent limitation guidelines for Steam Electric power generating point sources

For future rulemaking, the EPA wants to improve the current total WTP model including use plus non-use benefits. The objective of this work assignment is to re-examine the existing meta-analysis underlying the WTP model and, if necessary, make changes to the meta-analysis to improve the model. One particular issue of concern that requires further examination is the difference in coefficient values for the independent variables representing single and multi-river systems. In the current meta-analysis regression equation, the multi-river variable's coefficient is lower than the single river variable coefficient, indicating a lower household WTP. Although there may be a theoretical reason explaining the difference in coefficient values, a lower WTP for multi-river may seem counter-intuitive to some, and to them, this represents a weakness that calls into question the applicability of the meta-analysis for rulemaking. Regardless of whether the coefficient values change at the conclusion of this re-examination/revision, an explanation needs to be given that justifies the difference in values of these variables' coefficients.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that will be based on an approved QAPP that will be developed under Task 2 of this work assignment. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary economic data used for this work assignment.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose

any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall not be required to travel as part of this work. However, if the need for travel arises, a request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

Task 1 - Prepare Workplan

The contractor shall prepare and submit a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, quality assurance approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

A weekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 2-1** below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models (sets of equations and assumptions that give predictions/estimates) and software that support the generation, collection, evaluation, analysis, or use of data. When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development, revision and validation of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing economic data (also known as “secondary” use of data). The activities being performed under this work assignment also are a continuation of work previously initiated under a precursor to this contract. Although a QAPP was prepared to support the activities specified in the precursor to this work assignment, the current work assignment includes new tasks and activities that may not have been sufficiently addressed in the previously approved QAPP.

These new tasks and activities include the following:

- Task 4 - Prepare methodology to revise meta-analysis, as needed
- Task 5 - Implement methodology to revise meta-analysis
- Task 7 - Presentation of revised meta-analysis and final report on difference between coefficient values for single and multi-river independent variables

Upon receipt of this work assignment, the Contractor shall review the previously approved *Quality Assurance Project Plan (QAPP) for Stormwater Regulation Economic Analysis Support EPA Contract No. EP-C-13-039 (05/22/12)*, and update it to reflect the new tasks/activities listed above. The Contractor also shall ensure that the revised QAPP:

- Is consistent with the requirements specified in EPA QA/R-5, *EPA Requirements for Quality Assurance Project Plans*.
- Reflects any changes to the Contractor’s organization and to the roles and responsibilities within the organization, including any Contractor team members (e.g., subcontractors and consultants that will support the project).
- Describes how the Contractor will ensure and document the quality of work performed by subcontractors and consultants supporting this work assignment. This includes the process for flowing QA/QC requirements down from the prime contractor to all subcontractors and consultants that are supporting the work assignment.
- Reflects the new tasks/activities listed above, and any updates/changes to the activities performed under the previously approved QAPP. In doing so, the revised QAPP must clearly describe the:
 - Objectives of all work assignment tasks that involve environmental data operations
 - Type of data to be collected, generated, or used under these tasks to support the project objectives—including search engines, federal databases, EPA data bases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
 - Quality objectives needed to ensure the data will support the project objectives; and
 - QA/QC activities to be performed to ensure that any results obtained are of the type, quality, transparency, and reproducibility needed.

- Describes how the technical and QA/QC activities performed under the work assignment will be documented in a manner that 1) supports the transparency, reproducibility, and quality requirements of the Data Quality Act for influential information and 2) will allow work products generated under this work assignment to be produced independently by someone outside of the Contractor team organization.
- Includes a revision history section or table that summarizes the changes made to the revised QAPP.
- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives—including search engines, federal databases, EPA data bases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- Specific QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The revised QAPP shall plan for and include specific performance or acceptance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to plan for document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The Contractor shall prepare a revised QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. If the contractor already has an approved Programmatic QAPP (PQAPP), the contractor may prepare the revised QAPP in the form of a Supplemental QAPP (SQAPP) instead of as a traditional stand-alone QAPP. If choosing to do so, the Contractor must specifically indicate which aspects (sections) of the PQAPP are being modified in the SQAPP. Table 2-2 at the end of this QA task identifies elements applicable to QAPPs for Existing Data Projects. Regardless of which format (i.e., SQAPP or traditional QAPP) is chosen when updating the previously approved QAPP, the Contractor shall address each element in Table 2-2 that is applicable to providing the quality assurance of the economic data operations performed under this work assignment. The revised QAPP should include a summary table of substantive revisions made to the previous QAPP (Revision History Page), based on elements in Table 2.2 identified by the EPA WAM.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were identified in the QAPP or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 15 days after submittal of the work plan, the contractor shall prepare and submit a revised QAPP that addresses the any of the relevant areas identified in Table 2-2.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented in the Contractor's previously approved QAPP, with any new strategies being documented in the updated QAPP or SQAPP, and with the Contractor's approved PQAPP (if applicable).
- Any and all deviations from the Contractor's previously approved QAPP (and, if applicable, PQAPP) must be documented in the revised QAPP or SQAPP that is submitted to EPA for approval.
- EPA will review the updated QAPP or SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP or SQAPP to reflect those comments within 5 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP or SQAPP is not fully approved (signed) within 25 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve gathering, evaluating, analyzing, and otherwise using existing environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an un-sanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the un-sanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the Contractor through written technical direction.

2.6 Deliverables and schedule under Task 2

- 2a. Updated QAPP or SQAPP within 15 days after submittal of the Work Plan
- 2b. Revised version of the updated QAPP or SQAPP reflecting EPA comments, if needed within 5 days of receipt of EPA comments on initial submission
- 2c. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report), to be submitted monthly throughout the WA period of performance

Table 2-2. QAPP Elements Applicable to Projects that Rely on Existing Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	X		
Organization's name	X		
Effective date and/or version identifier		X	
Dated signature of Organization's project manager		X	

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Dated signature of Organization's QA manager		X	
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)		X	
Revision History		X	
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)		X	
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization		X	Contractor shall review and revise this element from the previous QAPP
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.		X	Contractor shall review and revise this element from the previous QAPP
Organization chart shows lines of authority & reporting responsibilities		X	Contractor shall review and revise this element from the previous QAPP
Project QA manager position indicates independence from unit collecting/using data and cannot be responsible for both duties.		X	Contractor shall review and revise this element from the previous QAPP
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X	Contractor shall review and revise this element from the previous QAPP
Identifies project objectives or goals		X	Contractor shall review and revise this element from the previous QAPP
Historical & background information		X	Contractor shall review and revise this element from the previous QAPP
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X	Contractor shall review and revise this element from the previous QAPP
A6. Project/Task Description			
List measurements to be made/data to obtain		X	Contractor shall review and revise this element from the previous QAPP
Notes special personnel or equipment requirements		X	Contractor shall review and revise this element from the previous QAPP
Provides work schedule		X	Contractor shall review and revise this element from the previous QAPP
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5		X	Contractor shall review and revise this element from the previous QAPP
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	X		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Discusses how this training will be provided/the necessary skills will be assured and documented	X		
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		
Identifies final work products that will result from the project		X	Contractor shall review and revise this element from the previous QAPP
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes		X	Contractor shall review and revise this element from the previous QAPP
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals		X	Contractor shall review and revise this element from the previous QAPP
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)		X	Contractor shall review and revise this element from the previous QAPP
If project includes development or update of a project database, QAPP identifies and defines each database field		X	Contractor shall review and revise this element from the previous QAPP
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use		X	Contractor shall review and revise this element from the previous QAPP
If literature searches are used, describes the search engines that will be used and key search terms		X	Contractor shall review and revise this element from the previous QAPP
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains		X	Contractor shall review and revise this element from the previous QAPP
For other potential sources, describe the potential sources & rationale for considering or using each one		X	Contractor shall review and revise this element from the previous QAPP
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)		X	Contractor shall review and revise this element from the previous QAPP
Explains rating system used to evaluate source against each criterion		X	Contractor shall review and revise this element from the previous QAPP
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project		X	Contractor shall review and revise this element from the previous QAPP
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X	Contractor shall review and revise this element from the previous QAPP

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified		X	Contractor shall review and revise this element from the previous QAPP
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)		X	Contractor shall review and revise this element from the previous QAPP
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database		X	Contractor shall review and revise this element from the previous QAPP
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element		X	Contractor shall review and revise this element from the previous QAPP
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly		X	Contractor shall review and revise this element from the previous QAPP
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units		X	Contractor shall review and revise this element from the previous QAPP
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source		X	Contractor shall review and revise this element from the previous QAPP
C3. Merging or Uploading Electronic Data from Existing Sources			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)		X	Contractor shall review and revise this element from the previous QAPP
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly		X	Contractor shall review and revise this element from the previous QAPP
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	X		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Describes who will be responsible for access to and maintenance of the stored data		X	Contractor shall review and revise this element from the previous QAPP
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made		X	Contractor shall review and revise this element from the previous QAPP
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation		X	Contractor shall review and revise this element from the previous QAPP
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project		X	Contractor shall review and revise this element from the previous QAPP
Describes how these determinations will be documented and reported		X	Contractor shall review and revise this element from the previous QAPP
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented		X	Contractor shall review and revise this element from the previous QAPP
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives		X	Contractor shall review and revise this element from the previous QAPP
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations		X	Contractor shall review and revise this element from the previous QAPP
Includes applicable calculations and equations (if known) or explanations of how they will be developed		X	Contractor shall review and revise this element from the previous QAPP
Includes plans for excluding outliers		X	Contractor shall review and revise this element from the previous QAPP
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products		X	Contractor shall review and revise this element from the previous QAPP
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives		X	Contractor shall review and revise this element from the previous QAPP
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes		X	Contractor shall review and revise this element from the previous QAPP

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives		X	Contractor shall review and revise this element from the previous QAPP
Describes how the results of this assessment will be documented		X	Contractor shall review and revise this element from the previous QAPP
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated		X	Contractor shall review and revise this element from the previous QAPP

Task 3 - Prepare standardized naming convention and version control memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The contractor shall have the option of following a previous SNCVC memorandum rather than preparing a new one. The EPA WAM will provide the previous SNCVC memorandum to the contractor who shall then decide whether a new SNCVC memorandum is required. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, a revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 4 – Prepare methodology to revise meta-analysis

Under contract EP-C-07-023, the contractor developed models to predict a household's total WTP for benefits (including non-use benefits) that resulted from water quality improvements. The contractor performed several analyses to do this. The EPA WAM anticipates that these models and analyses will need to be re-evaluated and revised during this WA. The primary purpose of the revision is to provide an explanation of why the single river independent variable regression coefficient has a higher value than the multi-river variable coefficient in the current meta-analysis. This indicates that the household total WTP for benefits resulting from water quality improvements is lower for multiple rivers than a single river. Although there may be a

theoretical explanation for the difference in coefficient values, a lower WTP for the multi-river variable may seem counter-intuitive to some, and to them, this represents a weakness that calls into question the applicability of the meta-analysis for rulemaking. Regardless of whether the coefficient values change at the conclusion of this re-examination/revision, an explanation needs to be given that justifies the values of these variables' coefficients.

The contractor shall complete the following tasks:

- 1) Determine whether there are new ways to estimate a WTP function based on new approaches to meta-analysis that emerged after the development of the current meta-analysis.
- 2) Account for any geographic or demographic factors (household density, population the survey respondents represent [even if not reported in the study, it may be possible to estimate/interpolate this from reported information], distance between households and waters, etc) in the model that could affect WTP.
- 3) Determine if there is any theoretical explanation for why the single river variable coefficient is higher than the multi-river variable coefficient in the current meta-analysis. Examine the num_riv_pond multiplier variable; Determine how many multiriver observations in the data have a high enough total number of rivers to result in the product of (multiple_river * num_riv_pond) being less than the value of single_river coefficient (-0.4279) and how many do not.
- 4) Examine whether quantity of waters valued (volume of water, surface area) should be factored in; biodiversity/aesthetics could be proportional to quantity meaning non-use benefits may be proportional to quantity.
- 5) Factor in quantity of water and geographic factors and determine whether they are sufficient to achieve a diminishing marginal utility that explains away the difference between coefficient values for multi-river and single river variables.
- 6) After completing tasks 1-5 listed above, determine a list of revisions for the meta-analysis to be implemented.

Because an earlier version of the meta-analysis, which was published (Johnson et al. 2005) and based on an older set of studies, also contained the counterintuitive relationship between the multiple and single rivers coefficients, this indicates that this result is not an artifact of the particular set of studies, but of the meta-analysis regression itself; The contractor shall resolve this issue before proceeding with updates in Task 5. A methodology for completing these tasks should be prepared, detailing what research/analytical methods will be used to complete the methodology tasks listed above. The contractor shall prepare draft deliverable material for EPA WAM review and approval. Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a revised version of the materials incorporating the EPA WAM's comments.

Deliverables and schedule under Task 4

4a. Methodology should be prepared within 20 calendar days of workplan approval.

4b. If required, a revised methodology within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

Task 5 – Implement methodology to revise meta-analysis before then re-examining which studies, data and analytical methods to use

In support of the benefits analysis the contractor shall revise and expand upon the benefits work done under the previous work assignments, such as contract EP-C-07-023. This would include implementing the methodology for revision from Task 4. Once the methodology from Task 4 is implemented, a literature review will be conducted to re-examine whether a different set of studies/results should be included in the meta-analysis (such as more recent studies). The contractor shall clearly document any changes to the set of studies/results and any resulting changes to the overall dataset. The analytical methods of the meta-analysis itself shall be re-examined by the contractor and any alternate, improved approach to the meta-analysis should be identified/applied. Examples of this would include incorporating relevant Bayesian methods, such as Bayesian model searching and averaging. After implementing the methodology from Task 4 and identifying/applying any new studies or analytical methods to use, the meta-analysis revision will be complete.

The contractor shall keep records sufficient for others to reproduce the revised meta-analysis, and be able to demonstrate the effect of different aspects of the revised analysis (revised meta-analysis variables, addition of more recent studies, changes to meta-analysis estimation) have on predictions of WTP. This may be demonstrated by showing how the revisions would affect the benefits estimates from a previous benefits analysis. The format and content of these replication documents will be decided upon by the contractor and may involve technical direction from EPA WAM.

In addition, the contractor shall produce additional memoranda to address specific issues that may arise during the development of the revised meta-analysis. An example memorandum might be about problems that arise during development and potential solutions to them. The specific content and deliverable dates will be provided to the contractor by the WAM through written technical direction, when the need for a memorandum arises.

Deliverables and schedule under Task 5

5a. Revised meta-analysis should be prepared within 20 calendar days of workplan approval.

5b. If additional edits are required the plan must be updated within 10 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.

5c. Additional deliverables (status memoranda and replication documents) create as needed, within 10 days of receipt of written technical direction by WAM.

Task 6 - Meeting Notes

The contractor shall generate Weekly Meeting Summaries (1-2 pages) summarizing issues to be discussed, conclusions from the current meeting, anticipated actions for the coming week, and time projections for all items. The Meeting Summary will due COB every Tuesday and after meetings that are not regularly scheduled, unless directed not to by the WAM by written technical direction.

Deliverables and schedule under Task 6.

6. Weekly Meeting Summaries due Tuesday of each week, unless directed otherwise by WAM through written technical direction.

Task 7 – Summary of revised meta-analysis and additional report on difference between coefficient values for single and multi-river independent variables

After the revised meta-analysis is completed, the contractor shall provide a summary detailing exactly what revisions were made and what changes resulted. This summary must be created within 10 days of the revised meta-analysis completion. An additional round of detailed summaries/reports may also be required. The specific content and deliverable dates for these additional deliverables will be provided to the contractor by the WAM through written technical direction, when the need for them arises.

The contractor shall also provide a final report analyzing the difference in value between the single and multiple river independent variable coefficients. It should address the difference in coefficient values in the current meta-analysis, whether the difference in value changed in the revised meta-analysis and it should assess any theoretical explanations. Report should also address the accuracy/validity of the current coefficients.

Deliverables and schedule under Task 7

7a. Summary of revised meta-analysis should be prepared within 10 days of completion of revised meta-analysis.

7b. Additional report on differences in coefficient values in current and revised meta-analysis within 10 days of completion of revised meta-analysis.

7c. Additional summaries/reports as needed by WAM through written technical direction.

Task 8. Final Deliverables

Prior to, or at the completion of this work assignment, the EPA WAM may provide technical direction to the contractor to make electronic copies of all datasets, spreadsheets, computer code, and documents used to produce all final deliverables requested under this work assignment. The contractor shall make and send these electronic and hard copy materials to the EPA WAM within 5 days of receiving written technical direction from the EPA WAM.

Deliverables and schedule under Task 8.

8. Final deliverable of electronic and hard copy materials due 5 days after receipt of written technical direction from the EPA WAM.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-09

☐

Other

☒

Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Revisions to Meta-Analysis

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

2, 2.1, 2.2, 2.3, 3, 6

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

09/11/2013 To 07/31/2014

Cost/Fee:

LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Sudhir Paladugu

Branch/Mail Code:

Phone Number 202-343-9181

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

(Signature)

(Date)

FAX Number:

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

- I. Title:** Revisions to Meta-Analysis of Total Willingness-to-Pay for Water Quality Improvements

Contractor: Abt Associates, Inc.

Contract No.: EP-C-13-039

- II. Work Assignment Number:** 0-09 Amendment 1

- III. Estimated Period of Performance:** Date of issuance through August 14, 2014

- IV. Estimated Level of Effort:** 120 hours

- V. Key EPA Personnel:**

Work Assignment Manager (WAM): Sudhir Paladugu
OST/EAD (4303T)
202/566-0638
202/566-1053 (fax)

Alternate Work Assignment Manager: Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

- VI. Purpose:**

Hours will be added to the work assignment so that the contractor can finish testing the deliverable product.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-09

☐ Other ☒ Amendment Number:

000002

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/11/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Todd Doley

(Signature)

(Date)

Branch/Mail Code:

Phone Number 202-566-1160

FAX Number:

Project Officer Name Ahmar Siddiqui

(Signature)

(Date)

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code:

Phone Number:

FAX Number:

Contracting Official Name Robert A. Knecht

(Signature)

(Date)

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

WORK ASSIGNMENT Amendment 2

- I. Title:** Revisions to Meta-Analysis of Total Willingness-to-Pay for Water Quality Improvements

Contractor: Abt Associates

Contract No.: EP-C-13-039

- II. Work Assignment Number:**

- III. Estimated Period of Performance:** Date of issuance through July 31, 2014

- IV. Estimated Level of Effort:** 115

- V. Key EPA Personnel:**

Work Assignment Manager (WAM): Todd Doley
OST/EAD (4303T)
202/566-1160
202/566-1053 (fax)

- VI. Background and Purpose:**

The purpose of this amendment is to add an additional 115 cost hours to perform work and prepare new deliverables under Tasks 4 and 5.

- VII. Performance Work Statement**

Task 4 – Prepare methodology to revise meta-analysis, as needed

Under a previous contract, the contractor developed models to predict a household's total WTP for benefits (including non-use benefits) that resulted from water quality improvements. The contractor has prepared and delivered a methodology for revising the meta-analysis model. These revisions primarily focused on the assessment of variables that characterize the water resources considered in the valuation studies. The contractor did assess several variables meant to represent the extent of the market. The contractor added the variable `ln_rel_size2`, which represents the ratio of study stream miles to the area (sq miles) that representative households were drawn from, because it was the most significant. The contractor shall produce a table of the similar variables that were assessed. The table shall define what the variable represents; the reasoning for considering it; and its significance, relative to other variables, when it was included. The table should be part of a brief memorandum that also includes a short description of the process used for developing and to assess these variables.

Deliverables and schedule under Task 4

- 4a. Extent of Market Memorandum should be delivered by July 23rd.**
- 4b. If required, a revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

Task 5 – Implement methodology to revise meta-analysis before then re-examining which studies, data and analytical methods to use

Based on the review of the Extent of Market table the EPA WAM's may issue technical direction to test additional variables. Upon receipt of technical direction from the EPA WAM, the contractor shall process the necessary data to generate new inputs to the model and rerun the regression model. The contractor should then deliver a brief memorandum with the results of these additional runs. Specifically, the memorandum should include input and output tables as well as a short explanation of the process and results.

Deliverables and schedule under Task 5

- 5. New Extent of Market Variable Results Memorandum should be delivered within 5 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-10

☐

Other

☐

Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/12/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

ELG database

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

C.7. database development and management

Purpose:

☒

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

09/12/2013 To 07/31/2014

Cost/Fee:

LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Karen Milam

Branch/Mail Code:

Phone Number 202-564-9752

FAX Number:

(Signature)

(Date)

Project Officer Name Damon Highsmith

Branch/Mail Code:

Phone Number: 202-566-2504

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: Economic Analysis Requirements for Effluent Limitation Guidelines: An Economic and Environmental Database

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-10

III. Estimated Period of Performance: Date of issuance through July 31, 2014

IV. Estimated Level of Effort: 406

V. Key EPA Personnel:

Work Assignment Manager (WAM): Karen Milam
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Alternate Work Assignment Manager (Alt-WAM): James Covington
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I. Purpose and Background:

The purpose of the ELG Database work assignment is to provide the Agency with a robust repository of methodologies and approaches used in EAD economic analyses, including costs and benefits. There is significant value in (1) identifying such methodological issues, (2) documenting the approach taken to respond to the issues, and (3) conducting further research and analysis to enhance the methodologies used to address these issues. Working through such identified issues outside of the context of a specific regulation would provide more general guidance, could promote greater consistency in future analyses and has the advantage of removing methodological hurdles that can slow down the already tight schedule in the contentious regulatory development process.

In 1995, Abt developed the "Review of Data Gathering and Methodological Issues for Effluent Guideline Economic Impact Analyses." The purpose of this manual was to compare the data sources, analytical approaches, methodologies, and assumptions made in economic analyses of ELGs. The document examined thirty seven regulations issued from 1976 through 1995. Recommendations for improving the economic analysis methodologies and outlined analytical issues that might warrant further investigation were identified. An accompanying manual that addressed cost effectiveness was also developed.

However, the 1995 document was never finalized. Instead, the 33 regulations were placed into a database using Microsoft Access. There are two copies of this database, one on the Engineering and Analysis Division I drive, and a second copy is held by Abt associates. The database allows EPA to query information from past guidelines. It consists of methodologies, assumptions, and overall summary information. EAD uses this database to field questions on a specific regulation, or in response to specific requests (e.g., by OMB or other parties involved in the regulatory development process).

The total number of past ELGs is estimated to be 132, including proposal and final. The database should reflect all past ELGs in order to summarize information across all 132 (e.g., how many ELGs conducted benefits analysis?).

Given a current focus on benefits work, the ELG database should be updated to include detailed information regarding benefits analysis conducted in past ELGs. This categorization of benefits analysis will allow EAD to provide summary information regarding past benefits analysis (e.g., what monetized benefits have been estimated for human health improvements from arsenic reduction, or what is the total amount of monetized benefits that have been estimated by ELGs?). This categorization should also lead further categorization in future ELG benefit analyses. Future ELG benefit analyses should be organized under the same categorization scheme that is created under this WA. This will improve transparency and understanding for those interested in benefits analyses.

II. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor will not disclose any CBI to anyone other than EPA without prior written approval from the EPA WAM. The contractor will, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor will manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

III. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Task 2 Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work.

2.2 QA Project Plan Requirements

Since the product of this WA is a database, the QAPP must describe how the database or electronic tool will be documented, and the controls to ensure accurate data entry and functionality of the database. In a previous WA, an SOP (the ELG Database Entry Checklist attached below) was created under Contract EP-C-07-023, WA 1-01 for populating the database. The text of the QAPP must explicitly reference this checklist that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The QAPP shall provide enough detail to clearly describe the:

- Objective of the tasks which are to provide EAD with an internal easily searchable database of summary information of past ELGs for their reference and ability to quickly gather specific information about all past ELGs to answer questions for management.
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. This may include, but is not limited to: adding a reference page number of the information found in a preamble, demonstrating via a checklist that multiple search methods were used to find the information to populate the database, and having a responsible party review at least 10% of entries to ensure information is accurately portrayed in the database. The contractor should provide additional suggestions of QA/QC activities that ensure any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The Contractor shall prepare a QAPP that addresses these areas and submit it to EPA for approval within 30 days after submittal of the work plan. **Table 1-2** at the end of this Work Assignment identifies elements applicable to this QAPP along with additional explanation provided by the QAO after Table 1-2. The Contractor shall address each element in Table 1-2 that is applicable to the environmental data operations performed under this work assignment, and use the additional explanation after the table for a more robust understanding.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a

knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a checklist can provide evidence of record that the original population of the database was done through multiple different search efforts, and that at least 10% of entries were reviewed by a QA manager or technical expert to verify their accurate submission.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 30 days after submittal of the work plan, the contractor shall prepare and submit a QAPP that addresses the specific areas identified in Table 1-2.

- EPA will review the QAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall review EPA comments, and revise the updated QAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the updated QAPP is not fully approved (signed) within 50 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve gathering, evaluating, analyzing, and otherwise using existing environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall adhere to the EPA WAM approved standardized naming convention and version control (SNCVC) plan that was developed under the Construction and Development WA 0-01 of this contract EP-C-07-023 (WA0-01_T1_SNCVC_08.31.07_V1.pdf). The contractor will use this standardized convention for all deliverables associated with this work assignment.

The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point under this WA. The EPA WAM will review the revised memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare the edited SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use the revised SNCVC.

Task 4: Economic and Environmental Database and ELG Database Entry Checklist

The contractor shall continue to create and maintain the ELG database as directed by the EPA WAM to provide information contained in economic analyses and preambles of Office of Water proposed and final regulations. The WAM will provide written technical direction for any structural changes to the database (e.g., allow for benefits and costs to be reported as a range instead of an average, or answer n/a instead of no, so the reader knows that the contractor attempted to look up the information but couldn't find it, versus there not being any information), which the contractor shall update/add onto the ELG Database Entry Checklist. The ELG Database Entry Checklist was created under a previous contract and is provided below for the contractor's reference. The EPA WAM will provide technical direction for suggested changes to the ELG Database Entry Checklist. The contractor may suggest their own structural changes as they see fit, and must be approved by the EPA WAM before adding them into the ELG Database Entry Checklist. The EPA WAM expects less than 20 structural changes, if necessary.

Task 5: Benefits Memo

The contractor shall add a section to the existing database on benefit categories. The following table provides an initial brainstorming of potential categories within this section, and an initial brainstorming of potential data to report within the categories. The contractor shall add to these benefit categories and data options in a memo. The list of benefit categories and data options should be comprehensive for all existing benefit analyses performed in current ELGs. The memo should also include a written method for adding new benefit categories and data options for new ELGs that have not been considered yet to date. The contractor shall provide the first draft to the EPA WAM for comment. Once EPA provides written approval of this deliverable, the contractor will program into the database a drop down for each column with all listed rows of benefit categories. All benefits in past ELGs should fit within the final set of benefit categories.

Benefit Categories					
1. Human Health Benefits from Surface Water Quality Improvements					
What	Pollutant	Method of exposure	Quantified?	Monetized?	Method of valuation
Reduced incidence of cancer	arsenic	fish consumption			
Reduced non-cancer adverse health effects (e.g., reproductive, immunological, neurological, circulatory, or respiratory toxicity)	arsenic	fish consumption			
Reduced IQ loss in children	lead	fish consumption			
Reduced need for specialized education for children	lead	fish consumption			
Reduced adverse health effects in adults	lead	fish consumption			

Reduced in-utero	mercury	maternal fish consumption			
Reduced health hazards	pollutants in waters	recreationally (e.g., swimming)			
2.Ecological Conditions and Recreational Use Benefits from Surface Water Quality Improvements					
What	Pollutant	Method of exposure			
Improvements in surface water quality, including: improved aquatic and wildlife habitat; enhanced water-based recreation, including fishing, swimming, boating, and near-water activities; increased aesthetic benefits, such as enhancement of adjoining site amenities (e.g., residing, working, traveling, and owning property near the water); and non-use value (i.e., existence, option, and bequest value from improved ecosystem health)a					
Improved protection of threatened and endangered species					
Reduced sediment contamination					
3.Groundwater Quality Benefits					
Reduced groundwater contamination					
4.Market and Productivity Benefits					
Reduced impoundment failures (monetized benefits include avoided cleanup costs and environmental damages; non-quantified benefits include avoided injury)					
Reduced water treatment costs for municipal drinking water, irrigation water, and					

industrial process					
Improved commercial fisheries yields					
Increased tourism and participation in water-based recreation					
Increased property values from water quality improvements					
5.Air-Related Benefits					
What	Pollutant	Method of exposure			
Reduced mortality	NOx, SO2 and particulate matter (PM2.5)				
Avoided climate change impacts from CO2 emissions					
6.Benefits from Reduced Water Withdrawals					
Increased availability of groundwater resources					

Task 6: Database Population

Based on EPA's written technical direction the contractor shall use the ELG database checklist and instructions to populate additional economic analyses in the ELG database. EPA will provide the contractor with a list of the economic analyses expected to be included in the database in the future, and provide updates to this list as necessary. Based on written technical direction from the EPA WAM, the contractor may do the following work in support of the data population. Specific support may include, but is not limited to:

- Populate data in 99 ELGs for proposed and final rulemakings (see Table 6.1).
- Update information for 33 previously populated proposal and final rulemakings (see Table 6.1), as outlined in the finalized ELG database checklist and QAPP in Task 2 and 4, including the new benefit categories created under Task 5. Such updates may be provided by the EPA WAM to the contractor per specific requests.

V. SCHEDULE/DELIVERABLES

TASK	DELIVERABLES	DUE DATE
1	Work plan	Within 15 calendar days of receipt of work assignment

2	QAPP	Within 30 days after submittal of the Work Plan
2	Revised version of the updated QAPP reflecting EPA comments, if needed	Within 10 days of receipt of EPA comments on initial submission
2	Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance
3	Changes to Standard Naming Memo	within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM
4	Updated ELG Database Entry Checklist	Within 15 days after TDD is issued
4	Updated ELG Database	Within 3 weeks after Database Checklist is finalized
5	Benefit Categories and Data Options Memo	Within 30 days after TDD is issued
5	Benefit Categories built into Database	Within 3 weeks after finalization of benefit categories
6	Populate any new categories in database for previously populated 33 ELGs (see table 6.1) to ensure consistency with the latest version of the finalized ELG Database checklist and QAPP.	Within 30 days of receipt of TDD from EPA WAM
6	Populate remaining 99 ELGS (see table 6.1) into database using the finalized ELG Database checklist and QAPP	Within 60 days of receipt of TDD from EPA WAM

Appendix 1

Table 1-2. QAPP Elements Applicable to Projects that Rely on Existing Data

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title		X	
Organization's name		X	
Effective date and/or version identifier		X	
Dated signature of Organization's project manager		X	
Dated signature of Organization's QA manager		X	
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)		X	
Revision History		X	
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices		X	
Document control information indicated (when required by the EPA Project Manager and QA Manager)		N/A	
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization		X	
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.		X	
Organization chart shows lines of authority & reporting responsibilities		X	
Project QA manager position indicates independence from unit collecting/using data		X	
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X	
Identifies project objectives or goals		X	
Historical & background information		X	
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X	
A6. Project/Task Description			
List measurements to be made/data to obtain		X	
Notes special personnel or equipment requirements	N/A		
Provides work schedule	N/A		
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5		X	
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	N/A		
Discusses how this training will be provided/the necessary skills will be assured and documented	N/A		
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff		X	
Identifies final work products that will result from the project		X	
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes		X	
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals	N/A		In the SOP

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	N/A		
If project includes development or update of a project database, QAPP identifies and defines each database field	N/A		Already in the SOP
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	N/A		Already in the SOP
If literature searches are used, describes the search engines that will be used and key search terms	N/A		
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	N/A		Should be covered in background discussion
For other potential sources, describe the potential sources & rationale for considering or using each one	N/A		
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)		X	
Explains rating system used to evaluate source against each criterion	N/A		
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	N/A		Will be added to SOP
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X	Multiple ways to search for information: list all possibilities
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	N/A		Will be added to SOP (mark as N/A in database entry to show attempt)
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	N/A		
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	N/A		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	N/A		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	N/A		Included in SOP

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element	N/A		Included in SOP
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	N/A		
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	N/A		
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source		X	
C3. Merging or Uploading Electronic Data from Existing Sources			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	N/A		simply going to be adding new data to the old database through data entry
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly		X	
C5. Data Storage and Manipulation			
Describes how the existing data will be stored		X	Explain the database library housed on EPA's F drive plus how Abt will store the data on their site.
Describes who will be responsible for access to and maintenance of the stored data	N/A		
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	N/A		
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	N/A		
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project		X	
Describes how these determinations will be documented and reported		X	
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	N/A		
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives	N/A		

QAPP Element	Sufficiently Addressed in Previous QAPP (or N/A to WA)	Additional Detail Needed in Updated QAPP	Explanatory Comments Regarding Additional Detail Needed
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	N/A		
Includes applicable calculations and equations (if known) or explanations of how they will be developed	N/A		
Includes plans for excluding outliers	N/A		
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	N/A		
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	N/A		
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	N/A		
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives		X	
Describes how the results of this assessment will be documented		X	
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	N/A		

Additional Explanation for Table 1.2:

A1. Title & Approval Sheet - straightforward

A2. Table of Contents - straightforward

A3. Distribution List - straightforward

A4. Project/Task Organization - provide a brief description of the key players (EPA and Abt, and maybe a sub??) and a table and/or chart that identifies key individuals with their responsibilities, contact info, and lines of authority & reporting responsibilities

A5. Problem Definition/Background- Can copy the background and project objectives from the work plan.

A6. Project/Task Description - Provide a very high level description of the data they need to obtain (e.g., data from all effluent guidelines regs published since 1995, as well as detailed information regarding benefits analysis conducted in

past ELGs-- including those published prior to 1995.) Not sure if it's simpler to just write a brief description or cut/paste material right out of the WA. QAPP Section B will address details about the exact data elements needed, so this level of detail doesn't have to be addressed here.

A7. Overall Quality Objectives & Criteria- Define the quality objectives and how you'll know they've been met. (e.g., how complete, representative, accurate must this database be, and how will they verify that the final product meets these goals. For example, they could state that the completeness goal is to capture 100% of the effluent guidelines that are in place for the data elements identified in A6)

A8. Special Training Requirements/ Certifications. If not applicable, just indicate that.

A9. Project-level Documents & Records. Identify the database as the final work product will result from the project, and explain and any interim deliverables/work products (e.g., the memos cited in the work assignment) that will be generated. Briefly summarize the process the Contractor will use to internally review those work products before submitting them to EPA. With respect to the process for (and who is responsible for) distributing the approved QAPP and other planning documents (and updates) to staff-- that seems pretty straightforward.

QAPP SECTION B

Combine B1 and B2 into a single item: Data Needs and Data Sources. Identify the specific data that they need to obtain to meet the goals of the project. (e.g., industrial category/subcategory, pollutant regulated, pollutant limits, Acts and Executive Orders Addressed, total costs, detailed costs, etc.) They can address "data sources" by stating that all data used to populate the database will come from the effluent guidelines in the CFR. If the SOP lists out exactly what data will need to be in the database they can cite SOP and where that information is. If the SOP lists only the original data fields, but not new fields that are needed in the new database, then they can cite the SOP where applicable and use Section A6 to document the new data fields that will need to be added to and populated in the database.)

B3. Criteria for Selecting Data Sources: I think they could simply draft something along the lines that all data will be gathered from the CFR because it is the authoritative source of data regarding the effluent guidelines regulations that are currently in effect. (If that's not the case, then I may have misunderstood the WA requirements.)

B4. Data Value Selection Approach: Again, I think a really simple sentence or two would address this. Specifically, the data values and the approach for selecting them were already established in the earlier 1995 effort. The same values and approach will be used to collect data generated since then. Then add a small bit on how they will select the data needed for the new data fields (i.e., that needed to support the WA requirement that "the ELG database should be updated to include detailed information regarding benefits analysis conducted in

past ELGs. This categorization of benefits analysis will allow EAD to provide summary information regarding past benefits analysis, e.g., how much monetized benefits has been estimated for human health improvements from arsenic reduction, or what is the total amount of monetized benefits that have been estimated by ELGs." If they're going to amend the SOP to cover this, they can simply state that and explain the process by which the SOP will be updated/reviewed/approved.

B5. Resolving Data Gaps: This should be really easy because the entire purpose of the effort is to address data gaps. Since the purpose is to create a database containing all pertinent information already published in the CFR there should be no data gaps once they have completed the update.

B6. Data Gathering Documentation and Records - I think they could reasonably drop this one b/c it's probably covered through elements A9 and B4.

QAPP SECTION C

C1. Standardization of Data Elements: In all likelihood, this is covered by the SOP. If not, they should indicate whether they will be capturing the values and units exactly as listed in each effluent guideline or whether they plan to standardize units across guidelines. (If the latter, then it means they'll be changing units and values, and they should describe the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly)

C2. Data Entry: Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source. If this is already in the SOP, all they need to do is reference the SOP.

C3. Merging or Uploading Electronic Data from Existing Sources: If they will be creating a new database that has enhanced functionality, and then uploading the old database into the new one, then they'll need to describe the procedures that they plan to follow to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s). If they are simply going to be adding new data to the old database through data entry, they can just indicate that QAPP element C3 is not applicable to the project.

C4. Data Review: I would suggest that this data element is not applicable, and that their process for reviewing the final database to ensure it is accurate and meets EPA's objectives is described in Section D.

C5. Data Storage and Manipulation: They should describe the QC strategies they will use to manage the database while they are enhancing and updating it to ensure the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation. If the SOP (or some other document) contains such details, they can cite and attach that.

QAPP SECTION D

The 5 elements in the checklist are likely to be overkill for this project. I recommend just having a single section called "Data Verification and Validation" that describes the contractor's process for ensuring that the final database submitted to EPA meets all technical objectives, quality objectives and data needs identified in A5, A6, and the combined B1/B2 discussion. (e.g., how will the contractor verify the systems functionality, completeness, accuracy, etc, who will be responsible for it, and what corrective actions will be taken to address problems before submission.)

Appendix 2

Table 6.1 ELGs in ELG database

ELG ID	ELG Description	Rule Stage	Details Populated
Airport Deicing			NO
Aluminum Forming - Final Rule	Aluminum Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Final Rule	NO
Aluminum Forming - Proposed Rule	Aluminum Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulations	Proposed Rule	NO
Aquaculture - Final Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category; Final Rule	Final Rule	NO
Aquaculture - Proposed Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category; Proposed Rule	Proposed Rule	NO
Asbestos Manufacturing - Final Rule	Asbestos Manufacturing Point Source Category; Final Effluent Limitations Guidelines	Final Rule	NO
Asbestos Manufacturing - Proposed Rule	Effluent Limitations Guidelines for Asbestos Manufacturing Point Source Category; Proposed Rules	Proposed Rule	NO
Battery Manufacturing - Final Rule	Battery Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Battery Manufacturing - Proposed Rule	Battery Manufacturing Point Source Category; Proposed Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Proposed Rule	NO
CAFO - Final Rule	National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs)	Final Rule	YES
CAFO - Proposed Rule	National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations	Proposed Rule	YES
Canned &	Canned and Preserved Fruits and Vegetables Point Source	Final Rule	NO

Preserved Fruits & Veg Proc.- Final	Category; Final Effluent Guidelines and Standards		
Canned & Preserved Fruits & Veg Proc.-Int. Final	Canned and Preserved Fruits and Vegetables Processing Point Source Category; Interim Effluent Limitations and Guidelines, and Proposed Performance and Pretreatment Standards	Interim Final Rule	NO
Canned & Preserved Seafood Proc. - Final Rule	Seafood Processing Point Source Category; Final Effluent Guidelines and Standards	Final Rule	NO
Canned & Preserved Seafood Proc. - Int. Final Rule	Canned and Preserved Seafood Processing Point Source Category; Effluent Guidelines and Standards and Proposed Guidelines and Standards	Interim Final Rule	NO
Carbon Black Manufacturing - Final Rule	Carbon Black Manufacturing Point Source Category; Final Effluent Limitations Guidelines, New Source Performance Standards, and Pretreatment Standards	Final Rule	NO
Carbon Black Manufacturing - Interim Final Rule	Carbon Black Manufacturing Point Source Category; Proposed Effluent Limitations Guidelines and Standards	Interim Final Rule	NO
Cement Manufacturing - Final Rule	Cement Manufacturing Point Source Category; Final Effluent Guidelines and Standards	Final Rule	NO
Cement Manufacturing - Proposed Rule	Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources; Notice Proposed Rulemaking; Cement Manufacturing Point Source Category	Proposed Rule	NO
Centralized Waste Treatment - Final Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Centralized Waste Treatment Point Source Category	Final Rule	YES
Centralized Waste Treatment - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Centralized Waste Treatment Point Source Category	Proposed Rule	YES
Chlorine and Chlorinated Hydrocarbon			NO
Coal Mining - Final Rule	Coal Mining Point Source Category: Amendments to Effluent Limitations Guidelines and New Source Performance Standards	Final Rule	YES
Coal Mining - Proposed Rule	Coal Mining Point Source Category; Amendments to Effluent Limitations Guidelines and New Source Performance Standards	Proposed Rule	YES
Coil Coating - Final Rule	Coil Coating Point Source Category, Canmaking Subcategory; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Coil Coating - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Canmaking Subcategory; Proposed Regulation	Proposed Rule	NO

Construction and Development - Final Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Construction and Development Category	Final Rule	YES
Construction and Development - Proposed Rule	Effluent Limitation Guidelines and New Source Performance Standards for the Construction and Development Category; Proposed Rule	Proposed Rule	YES
Construction and Development - Proposed Rule 2008	Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category; Proposed Rule	Proposed Rule	YES
Cooling Water Intake Structures, ExistFacil - Prop	National Pollutant Discharge Elimination System - Proposed Regulation to Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Phase I Facilities	Proposed Rule	YES
Cooling Water Intake Structures, P I - Final	National Pollutant Discharge Elimination System: Regulations Addressing Cooling Water Intake Structures for New Facilities; Final Rule	Final Rule	YES
Cooling Water Intake Structures, P I - Proposed	National Pollutant Discharge Elimination System; Cooling Water Intake Structures for New Facilities; Proposed Rule	Proposed Rule	YES
Cooling Water Intake Structures, P II - Final	National Pollutant Discharge Elimination System Final Regulations To Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Final Rule	Final Rule	YES
Cooling Water Intake Structures, P II - Proposed	National Pollutant Discharge Elimination System-Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Proposed Rule	Proposed Rule	YES
Cooling Water Intake Structures, P III - Final	National Pollutant Discharge Elimination System - Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase III Facilities	Final Rule	YES
Cooling Water Intake Structures, P III - Proposed	National Pollutant Discharge Elimination System-Proposed Regulations To Establish Requirements for Cooling Water Intake Structures at Phase III Facilities; Proposed Rule	Proposed Rule	YES
Copper Forming - Final Rule	Final Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Copper Forming Point Source Category	Final Rule	NO
Copper Forming - Proposed Rule	Copper Forming Point Source Category Proposed Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Proposed Rule	NO
Dairy Products Processing - Final Rule	Dairy Products Processing Industry Point Source Category; Final Effluent Limitations Guidelines and Pretreatment Standards Application	Final Rule	NO
Dairy Products Processing - Proposed Rule	Proposed Effluent Limitations Guidelines; Dairy Products Processing Industry	Proposed Rule	NO
Drinking Water Treatment			NO
Electrical and Electronic Components, PI - Final	Electrical and Electronic Components Point Source Category Final Effluent Limitations Guidelines Phase I	Final Rule	NO
Electrical and	Electrical and Electronic Components Point Source Category	Interim	NO

Electronic Components, PI - IntFinal	Effluent Limitations Guidelines; Interim Final Rule	Final Rule	
Electrical and Electronic Components, PII -Final	Electrical and Electronic Components Point Source Category Pretreatment Standards, and New Source Performance Standards; (Phase II); Final Rule	Final Rule	NO
Electrical and Electronic Components, PII -Prop	Electrical and Electronic Components Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulations	Proposed Rule	NO
Electroplating - Final Rule	Final Effluent Guidelines and Standards; Electroplating Point Source Category; Pretreatment Standards for Existing Sources	Final Rule	NO
Electroplating - Proposed Rule	Electroplating Point Source Category; Effluent Guidelines and Standards, Pretreatment Standards for Existing Sources; Proposed Amendments to final rules	Proposed Rule	NO
Explosives Manufacturing - Interim Final Rule	Explosives Manufacturing Point Source Category; Interim Final and Proposed Limitations, Guidelines, and Standards	Interim Final Rule	NO
Ferroalloy Manufacturing - Final Rule	Ferroalloy Manufacturing Point Source Category; Final Effluent Limitations Guidelines and Standards	Final Rule	NO
Ferroalloy Manufacturing - Proposed Rule	Ferroalloy Manufacturing Point Source Category; Proposed Guidelines and Standards	Proposed Rule	NO
Fertilizer Manufacturing - Final Rule	Fertilizer Manufacturing Point Source Category; Effluent Limitations Guidelines; Final Rule	Final Rule	NO
Fertilizer Manufacturing - Interim Final Rule	Fertilizer Manufacturing Point Source Category; Interim Final Regulation	Interim Final Rule	NO
Glass Manufacturing - Final Rule	Glass Manufacturing Point Source Category; Final Effluent Guidelines and Standards	Final Rule	NO
Glass Manufacturing - Proposed Rule	Glass Manufacturing Point Source Category; Proposed Effluent Limitations Guidelines and Standards of Performance and Pretreatment Standards	Proposed Rule	NO
Grain Mills - Final Rule	Grain Mills Point Source Category; Final Effluent Limitations and Guidelines	Final Rule	NO
Grain Mills - Proposed Rule	Grain Mills Point Source Category; Proposed Effluent Limitations Guidelines for Existing Sources and Pretreatment Standards for New Sources	Proposed Rule	NO
Gum and Wood Chemicals Manufacturing - Int. Final	Gum and Wood Chemicals Manufacturing Point Source Category; Effluent Limitations Guidelines and Standards	Interim Final Rule	NO
Gum and Wood Chemicals	Gum and Wood Chemicals Manufacturing Point Source Category Proposed Effluent Limitations Guidelines;	Proposed Rule	NO

Manufacturing - Prop Rule	Pretreatment Standards, and New Source Performance Standards		
Hospitals - Interim Final Rule	Hospital Point Source Category; Effluent Limitations and Guidelines	Interim Final Rule	NO
Industrial Container and Drum Cleaning			NO
Industrial Laundries - Final Rule	Effluent Limitations Guidelines and Pretreatment Standards for the Industrial Laundries Point Source Category	Final Rule	NO
Industrial Laundries - Proposed Rule	Effluent Limitation Guidelines and Pretreatment Standards for Industrial Laundries Point Source Category	Proposed Rule	YES
Ink Formulating - Final Rule	Paint and Ink Formulating Point Source Categories; Final Effluent Guidelines and Standards	Final Rule	NO
Ink Formulating - Proposed Rule	Printing Ink and Paint Formulating Point Source Categories; Proposed Effluent Guidelines and Standards	Proposed Rule	NO
Inorganic Chemicals Manufacturing - Final Rule	Clean Water; Inorganic Chemicals Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Inorganic Chemicals Manufacturing - Proposed Rule	Inorganic Chemicals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Rule	Proposed Rule	NO
Iron and Steel Manufacturing - Final Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Iron and Steel Manufacturing Point Source Category	Final Rule	YES
Iron and Steel Manufacturing - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Iron and Steel Manufacturing Point Source Category	Proposed Rule	YES
Landfills - Final Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Landfills Point Source Category	Final Rule	YES
Landfills - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Landfills Point Source Category	Proposed Rule	YES
Leather Tanning and Finishing - Final Rule	Leather Tanning and Finishing Effluent Limitations Guidelines, Pretreatment Standards; New and Existing Sources; Direct final rule	Final Rule	NO
Leather Tanning and Finishing - Proposed Rule	Leather Tanning and Finishing Effluent Limitations Guidelines Pretreatment Standards New and Existing Sources; Proposed regulation	Proposed Rule	NO
Meat and Poultry Products - Final Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Meat and Poultry Products Point Source Category	Final Rule	YES
Meat and Poultry Products - Proposed Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Meat and Poultry Products Point Source Category	Proposed Rule	YES

Metal Finishing - Final Rule	Electroplating and Metal Finishing Point Source Categories; Final Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Final Rule	NO
Metal Molding and Casting - Final Rule	Metal Molding and Casting Industry Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Metal Molding and Casting - Proposed Rule	Metal Molding and Casting Finishing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulation	Proposed Rule	NO
Metal Products and Machinery - Final Rule	Effluent Limitation Guidelines, Pretreatment Standards, and New Source Performance Standards for the Metal Products and Machinery Point Source Category	Final Rule	YES
Metal Products and Machinery - Proposed Rule	Effluent Limitation Guidelines, Pretreatment Standards, and New Source Performance Standards for the Metal Products and Machinery Point Source Category	Proposed Rule	YES
Mineral Mining and Processing - Final Rule	Mineral Mining and Processing Point Source Category; Final Rulemaking	Final Rule	NO
Mineral Mining and Processing - Proposed Rule	Mineral Mining and Processing Point Source Category; Effluent Guidelines and Standards; Interim Final Rule and Proposed Rule	Proposed Rule	NO
Nonferrous Metals Forming and Powders - Final Rule	Nonferrous Metals Forming and Metal Powders Point Source Category; Effluent Limitations, Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Nonferrous Metals Forming and Powders - Prop Rule	Nonferrous Metals Forming and Iron and Steel/Copper/Aluminum Metal Powder Production and Powder Metallurgy Point Source Category; Effluent Limitations, Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Rule	Proposed Rule	NO
Nonferrous Metals Manufacturing, P I - Final Rule	Nonferrous Metals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Nonferrous Metals Manufacturing, P I - Prop Rule	Nonferrous Metals Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulation	Proposed Rule	NO
Nonferrous Metals Manufacturing, P II - Final Rule	Nonferrous Metals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Nonferrous Metals Manufacturing, P II - Prop Rule	Nonferrous Metals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulation	Proposed Rule	NO
OCPSF - Final Rule	Organic Chemicals and Plastics and Synthetic Fibers Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
OCPSF -	Organic Chemicals and Plastics and Synthetic Fibers Category	Proposed	NO

Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Regulation	Rule	
Oil and Gas Extraction - Final Rule	Effluent Limitations Guidelines and New Source Performance Standards for the Oil and Gas Extraction Point Source Category; OMB Approval Under the Paperwork Reduction Act; Technical Amendment; Final Rule	Final Rule	NO
Oil and Gas Extraction - Proposed Rule	Effluent Limitations Guidelines and New Source Performance Standards for Synthetic-Based and Other Non-Aqueous Drilling Fluids in the Oil and Gas Extraction Point Source Category; Proposed Rule	Proposed Rule	NO
Ore Mining and Dressing - Final Rule	Ore Mining and Dressing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Ore Mining and Dressing - Proposed Rule	Ore Mining and Dressing Point Source Category; Gold Placer Mining; Effluent Limitations Guidelines and New Source Performance Standards; Proposed Regulation	Proposed Rule	NO
Paint Formulating - Final Rule	Paint and Ink Formulating Point Source Categories; Effluent Guidelines and Standards; Final Rule	Final Rule	NO
Paint Formulating - Proposed Rule	Printing Ink and Paint Formulating Point Source Categories; Effluent Guidelines and Standards; Proposed Rule	Proposed Rule	NO
Paving and Roofing Materials - Final Rule	Paving and Roofing Materials (Tars and Asphalt) Point Source Category; Final Effluent Limitations Guidelines	Final Rule	NO
Paving and Roofing Materials - Proposed Rule	Paving and Roofing Materials (Tars and Asphalt) Point Source Category; Proposed Effluent Limitations Guidelines	Proposed Rule	NO
Pesticide Chem FPR - Final Rule	Pesticide Chemicals Category, Formulating, Packaging and Repackaging Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Final Rule	YES
Pesticide Chem FPR - Proposed Rule	Pesticide Chemicals Category, Formulating, Packaging and Repackaging Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Rule	Proposed Rule	YES
Pesticide Chem Manufacturing - Final Rule	Pesticide Chemicals Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Final Rule	YES
Pesticide Chem Manufacturing - Proposed Rule	Pesticide Chemicals Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	Proposed Rule	YES
Petroleum Bulk Stations and Terminals			NO
Petroleum Refining - Final Rule	Petroleum Refining Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Petroleum Refining - Proposed Rule	Petroleum Refining Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed regulation	Proposed Rule	NO

Pharmaceutical Manufacturing - Final Rule	Pharmaceutical Manufacturing Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	YES
Pharmaceutical Manufacturing - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Pharmaceutical Manufacturing Category; Proposed Rule	Proposed Rule	YES
Phosphate Manufacturing - Final Rule	Phosphate Manufacturing Point Source Category; Effluent Limitations Guidelines; Final Rule	Final Rule	NO
Phosphate Manufacturing - Proposed Rule	Phosphate Manufacturing Point Source Category; Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources; Proposed Rule	Proposed Rule	NO
Photographic - Interim Final Rule	Photographic Point Source Category; Effluent Guidelines and Standards; Interim Final Rule Making	Interim Final Rule	NO
Plastics Molding and Forming - Final Rule	Plastics Molding and Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Regulation	Final Rule	NO
Plastics Molding and Forming - Proposed Rule	Plastics Molding and Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Rule	Proposed Rule	NO
Porcelain Enameling - Final Rule	Porcelain Enameling Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Porcelain Enameling - Proposed Rule	Porcelain Enameling Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Proposed Rule	Proposed Rule	NO
Pulp, Paper, and Paperboard - Final Rule	Emissions Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Pulp, Paper, and Paperboard Category; Final Rule	Final Rule	NO
Pulp, Paper, and Paperboard - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Pulp, Paper, and Paperboard Category; National Emission Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production; Proposed Rules	Proposed Rule	NO
Rubber Manufacturing - Final Rule	Rubber Processing Point Source Category; Final Effluent Limitations and Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards	Final Rule	NO
Rubber Manufacturing - Proposed Rule	Rubber Processing Point Source Category; Proposed Effluent Limitations and Guidelines for Certain Subcategories	Proposed Rule	NO
Soap and Detergent Manufacturing - Final Rule	Soap and Detergent Manufacturing Point Source Category; Final Effluent Limitations Guidelines	Final Rule	NO
Soap and Detergent	Soap and Detergent Manufacturing Point Source Category; Proposed Effluent Limitations Guidelines and New Source	Proposed Rule	NO

Manufacturing - Proposed Rule	Standards		
Steam Electric Power Generation - Final Rule	Steam Electric Power Generating Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule	Final Rule	NO
Steam Electric Power Generation - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards Under Clean Water Act; Steam Electric Power Generating Point Source Category; Proposed Regulation	Proposed Rule	NO
Sugar Processing - Final Rule	Liquid and Crystalline Cane Sugar Refining Subcategory; Final Effluent Limitations Guidelines and Proposed Pretreatment Standards	Final Rule	NO
Sugar Processing - Proposed Rule	Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Sugar Processing Industry	Proposed Rule	NO
Textile Mills - Final Rule	Textile Mills Point Source Category Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards; Final Rule	Final Rule	NO
Textile Mills - Proposed Rule	Textile Mills Point Source Category Effluent Limitations Guidelines; Pretreatment Standards and New Source Performance Standards; Proposed Regulations	Proposed Rule	NO
Timber Products Processing - Final Rule	National Emissions Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category; Final Rule	Final Rule	NO
Timber Products Processing - Proposed Rule	National Emissions Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; Proposed Rule	Proposed Rule	NO
Tobacco Products Processing			NO
Transportation Equipment Cleaning - Final Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category; Final Rule	Final Rule	NO
Transportation Equipment Cleaning - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category; Proposed Regulation	Proposed Rule	NO
Waste Combustors - Final Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Commercial Hazardous Waste Combustor Subcategory of the Waste Combustors Point Source Category	Final Rule	YES
Waste Combustors - Proposed Rule	Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Industrial Waste Combustor Subcategory of the Waste Combustors Point Source Category	Proposed Rule	YES

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-11

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

OWOW Geospatial Support

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

C.1, C.7, D.1, D.2, E.7

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 05/27/2014 To 07/31/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO
(Max 2)

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

09/11/2013 To 07/31/2014

Cost/Fee:

LOE: 0

This Action:

900

Total:

900

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Tommy Dewald

Branch/Mail Code:

(Signature)

(Date)

Phone Number 202-566-1178

FAX Number:

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

(Signature)

(Date)

Phone Number: 202-566-1044

FAX Number:

Other Agency Official Name

Branch/Mail Code:

(Signature)

(Date)

Phone Number:

FAX Number:

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

(Signature)

(Date)

Phone Number: 513-487-2043

FAX Number:

WORK ASSIGNMENT

I. Title: OWOW Geospatial Support

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-11

III. Estimated Period of Performance: May 27, 2014 through July 31, 2014

IV. Estimated Level of Effort: \$90,000

V. Key EPA Personnel:

Work Assignment Manager (WAM): Thomas G. Dewald
OWOW/AWPD (4503T)
202/566-1178
202/566-1437 (fax)

Alternate Work Assignment Manager: Shera Reems
OWOW/AWPD (4503T)
202/566-1264
202/566-1437 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

The purpose of this Work Assignment (WA) is to provide for the continuing support and application of the Office of Water's surface water geospatial framework, known as NHDPlus (National Hydrography Dataset Plus) (contract section E.7), to EPA and the larger water resources community. The NHDPlus framework enables improved display and analysis (upstream/downstream) of environmental data for most facets of the EPA Water Program, including wastewater management, water quality assessments and impairments. The framework is comprised of the national digital stream network and the local drainage area (catchments) for each stream segment, which allows any water-related environmental data that are either on the network (such as permitted dischargers or monitoring sites) or on the landscape (such as land cover and soil type) to be related – to better identify and understand the implications of existing and potential pollution sources. NHDPlus stream flow volume and velocity attributes associated

with the stream network also make dilution modeling for pollutants possible. These collective capabilities support both the CWA and the Safe Drinking Water Act (SDWA).

This WA will accommodate technical support and outreach for NHDPlus geospatial data and tools that work with the data. All activities are within the scope of contract sections C, D and E as noted on the individual tasks.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that will be based on Task 2 QAPP language. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary environmental data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under Job 6 of OW Contract C_DOCM130105CT0027 EP-G11H-00057. The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

VII. General Requirements of the Work Assignment and Schedule

Budget Reporting: The contractor under this work assignment is required to report to the EPA WAM when 80 percent of the total work assignment funding amount has been depleted. The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall be required to travel under this work assignment. Travel may be to

participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcGIS, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

The contractor will manage projects in accordance with the industry standard project management practices such as the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK) or PProjects IN Controlled Environments Version 2.0 (PRINCE2). The contractor will develop appropriate project management artifacts including:

- Workplan
- Baseline schedule and any updated schedules
- Work breakdown structure
- Risk Management Plan
- Quality Assurance Plan

Regular communication between EPA and contractor staff will be accomplished through monthly project management meetings, bimonthly and ad hoc project team meetings and calls, web-based collaboration tools, document sharing, and email. In addition, monthly progress and financial reports will be provided to the customer.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan.

Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required. A weekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work. In addition, a Quality Assurance Surveillance Plan is attached.

QA Project Plan Requirements

EPA policy requires that an *approved* Quality Assurance Project Plan (QAPP) be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. The work to be performed by the Contractor under this work assignment involves such activities; in order to comply with this requirement:

- The contractor shall prepare and submit a Quality Assurance Project Plan (QAPP) documenting how quality assurance (QA) and quality control (QC) will be applied to the generation, collection, evaluation, analysis and use of environmental data within 15 days after submittal of the workplan.
- EPA will review the submitted QAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall revise the submitted QAPP within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- **Under no circumstances shall work that involves the generation, collection, evaluation, analysis, or use of environmental data be performed without an approved QAPP in place 50 days after submission of the Contractor's work plan.**
- Under no circumstances shall field sampling or laboratory analysis activities be conducted prior to receipt of an approved work plan.
- Any non-sampling/non-analytical work that involves the generation, collection, evaluation, analysis, or use of environmental data that is initiated prior to approval of the Contractor's QAPP must be performed in accordance with the approved QAPP. (The QAPP requirements must be applied retroactively to this period that lasts no more than 50 days from submission of the Contractor's work plan.).

The contractor shall write the QAPP using the active voice. The QAPP shall address the **generation** (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data) , **evaluation** (including data

inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements or data, facility or economic questionnaire data, economic data, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. Note that QAPPs are also required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it will be used, and how the model output will be evaluated to ensure it meets the overall quality objectives for the project. However, development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

The QAPP shall provide enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. The QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

When preparing the QAPP, the Contractor shall address the following general questions applicable to all QAPPs. These questions may be directly addressed within the format of the QAPP to the maximum extent possible, and/or may be addressed in a separate section or addendum to the QMP.

General Questions Applicable to all QAPPs that support all projects

- What is the objective/goal of this effort?
- What are the roles and responsibilities of staff who will support this project, and how to they relate to the specific key steps

- What training and competency requirements are necessary for key personnel that will support the project?
- If models will be used to support the project, what are these models, why have they been selected, and how will they be validated, documented and used?
- What are the SOPs, tools and checklists that will be used?

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version will be included in the public docket for the applicable rulemaking (or other docket or record), and the unsanitized version will be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WAM can easily identify the areas that will require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM will notify the Contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignments must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

Deliverables and schedule under Task 2

- 2a. QA Plan within 15 days after submittal of the Contractor's work plan.**
- 2b. If required by EPA WAM, contractor will revise plan within 10 days of receipt of comments from the EPA WAM, unless otherwise directed by the EPA WAM**
- 2c. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report.)**

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WAM's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WAM may direct the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

- 3a. SNCVC memorandum within 7 calendar days of workplan approval.**
- 3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WAM, at technical direction of EPA WAM.**

Task 4 – Provide NHDPlus Technical Support (Sections C.1, C.7, E.7)

The Contractor shall provide NHDPlus technical support and consultation to users, including trouble-shooting and applications consultation, over the phone, by email and face-to-face. The Contractor shall produce a log of these activities that includes number of user consultations as well as user name, organization and application (when applicable). It is expected that there will be approximately 3-5 technical consultation per day, 1 NHDPlus team call per week, and 1 NHD Technical Advisory call per week.

As part of this task, the Contractor shall provide technical consultation on the implementation of automated processes for georeferencing state assessment units. EPA has developed a draft specification and a draft process for automatically georeferencing state assessment units to the

NHDPlus. The contractor shall participate in teleconferences to discuss the design and proposed approach for implementing the automated processes (for the purposes of estimating cost, the contract should estimate one 1-hour call per week over a duration of 3 months).

Also under this task, the Contractor shall provide technical consultation on the NHDPlus components of the 303(d) strategic measures pilot under the EPA Office of Water 303(d) program's new vision ("A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program"). The contractor shall respond to questions from states and regions about pilot results and in calculating draft FY15 commitments, including conference calls (for the purposes of estimating cost, the contract should estimate one 1-hour call per week over a duration of 3 months).

Deliverables and schedule under Task 4

4a. Technical support and consultation (ongoing)

4b. Technical support and consultation log, (due the 1st day of each month)

Task 5 – Provide NHDPlus Training and Outreach (Sections D.1, D.2, E.7)

The Contractor shall prepare materials for and conduct NHDPlus-related presentations and training at meetings, workshops, conferences, as requested by the EPA WAM. It is expected that there will be approximately 2-4 presentations and training sessions per year.

The Contractor shall operate, maintain and enhance the NHDPlus Web site as a mechanism for distributing NHDPlus-related documents and data. The NHDPlus Web site should be accessible through the EPA's existing WATERS Web site (www.epa.gov/waters) and should be referenced from the USGS NHD Web site (nhd.usgs.gov). Web site content will be specified and approved in advance of release by the EPA WAM.

Deliverables and schedule under Task 5

5a. Presentations and training with materials, due as directed by the EPA WAM including:

5a.1 Environmental Systems Research Institute User Conference (July 14, 2014)

5b. NHDPlus Web Site, due as directed by the EPA WAM

QUALITY ASSURANCE SURVEILLANCE PLAN

Performance Requirement	Measurable Performance Standards	Surveillance Methods	Incentives/Disincentives
Management and Communications: During the life of this work assignment, the Contractor shall notify EPA immediately of any issues that may impact the timeliness of deliverables of the problems associated with the development of deliverables.	The Contractor shall maintain contact with the EPA WAM throughout the performance of the work assignment. The contractor shall identify to the EPA WAM any delays with regard to deliverables not less than one week prior to the deliverable date that has been established in the work assignment or technical direction documents. The contractor shall identify to the EPA WAM any issues or concerns that have a direct impact on project schedules within three (3) days of occurrence. The contractor shall provide options for EPA's consideration on resolving or mitigating the impacts identified.	EPA WAM and Project Officer (as necessary) will allocate the time needed to discuss and address all issues identified by the Contractor. The EPA WAM and Project Officer will document and maintain a complete record of the issues, agreements and outcome. The EPA WAM and Project Officer will review monthly progress reports for indicators of problems not previously mentioned. The EPA WAM will also monitor the timely receipt of deliverables. For those that are late without prior notice, the EPA will formally document to the Contracting Officer the late delivery.	Failure of the contractor to effectively manage the work under this work assignment and communicate problems in a timely manner is deemed unsatisfactory. Therefore failure to meet the established performance standard under this work assignment will be documented in the Past Performance evaluation input annually in the CPARS. The contractor will also be rated as "Unsatisfactory" in Business Relations
Cost Management and Control: The Contractor shall perform all work in an efficient and cost effective manner, applying cost control measures where practical.	The Contractor shall monitor, track and accurately report level of effort, labor cost, other direct cost and fee expenditures to EPA through monthly progress reports and approved special reporting requirements. The Contractor shall assign appropriately leveled and skilled personnel to all tasks. The contractor should not exceed established work assignment ceilings and, in general, should expend dollars and hours at similar ratios. If either the expenditure of hours or dollars deviates significantly, the contractor shall provide an explanation in its Monthly Progress Report.	The EPA Project Officer will routinely meet with the Contractor's Project Manager to discuss the work progress and contract and individual work assignment level expenditures. The EPA Project Officer and EPA WAM shall review the Contractor's monthly progress reports to ensure that ceilings are not exceeded, that progress is being made, and that the contractor is effectively utilizing the LOE provided under the work assignment.	Failure of the contractor to effectively manage cost under this work assignment will be deemed unsatisfactory. Therefore failure to meet the established performance standard under this work assignment will be documented in the Past Performance evaluation input annually in the NIH Contractor Performance System. EPA will thoroughly review any overrun of the cost ceiling for this work assignment to determine the contractor's ability to control the situation. If EPA determines that the contractor failed to control situations that it could, the contractor will be rated as "Unsatisfactory" in the category of Cost Control.
Quality of Product/Services The contractor shall ensure documents developed under this work assignment are quality products that are factual and based on sound science and engineering principles.	The deliverable identified shall be developed in accordance with the cited guidance. The deliverable must not contain any factual errors. The contractor's analyses shall be logical, consistent, and defensible.	The EPA WAM will review the documents delivered under this work assignment.	If EPA finds factual errors that result in the need for significant re-analysis of the draft product, it will be documented and reported in the contractor's annual past performance evaluation. Further, EPA may determine that costs associated with re-analysis will be borne by the contractor.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-11

☐ Other ☒ Amendment Number:

000001

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2015

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

OWOW Geospatial Support

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

C.1,C.7, D.1, D.2 D.7

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 05/27/2014 To 07/31/2014

Comments:

Other that the number of hours all other parts of the PWS remain unchanged. Reduction in scope of hours from 900 to 600 to correspond to 2 month time period as specified in the PWS. The 900 figure was for 3 month time period initially intended, which was subsequently reduced to 2 month time period. Review of the original Work Plan raised questions as to total cost.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO
(Max 2)☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/11/2013 To 07/31/2015

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Tommy Dewald

Branch/Mail Code:

Phone Number 202-566-1178

FAX Number:

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-12

☐

Other

☐

Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:

☒

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 09/11/2013 To 07/31/2014

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO
(Max 2)☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

09/11/2013 To 07/31/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name David Wells

Branch/Mail Code:

Phone Number 202-566-0387

FAX Number: 202-564-0500

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

WORK ASSIGNMENT

I. Title: HAWQS CAFO Nutrient Demo

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 0-12

III. Estimated Period of Performance: September 01, 2013 through August 31, 2014

IV. Estimated Level of Effort: 240 hours

V. Key EPA Personnel:

Work Assignment Manager (WAM): **David Wells**
OW/IO/MOS/PMO (4101M)
202/566-0387
202/564-0500 (fax)

Alternate Work Assignment Manager: **Joel Corona**
OW/IO/WPS (4101M)
202/564-0006
202/564-0500 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to develop several nutrient based water quality modeling scenarios using EPA's HAWQS model, run the model and evaluate the results.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that will be based on Task 2 QAPP. The QA project plan shall describe the procedures for assuring the quality of the primary and secondary data used for this work assignment.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During this work assignment, the contractor will not have access to any Confidential Business Information (CBI).

Budget Reporting: The contractor must also report to the EPA WAM when 80 percent of the approved Workplan budget has been depleted

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities: The contractor will submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Project Officer (PO), and EPA WAM.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor may be required to travel under this work assignment. Travel would be to meet with EPA to discuss methodology and other important issues associated with the project and to present the results of the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the PO before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WAM.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days of receipt of a performance statement of work signed by the Contracting Officer or 15 calendar days after the start of the contract period, whichever is later. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

A weekly update call with the EPA WAM will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

1a. Workplan within 15 calendar days of receipt of work assignment.

Task 2 - Quality Assurance

The contractor shall prepare a QAPP, it may be prepared as either a stand-alone QAPP or as a supplement to the programmatic QAPP. If a supplemental QAPP is prepared, it must focus solely to the relevant tasks in the work assignment and include specific details regarding the objectives and QA/QC strategies needed to support the modeling activity described in the corresponding work assignment.

Deliverables and schedule under Task 2

2a. Quality Assurance Project Plan (QAPP) within 15 calendar days of receipt of work assignment

Task 3 – Perform Environmental Assessment

The contractor shall perform environmental assessments of the impact of nutrients to water quality using EPA's HAWQS model which incorporates SWAT, the USDA's Soil and Water Assessment Tool. The contractor will also be expected to coordinate their activities with the USDA and Texas A&M University, developers of the SWAT model.

EPA will select three to four nutrient management control scenarios to evaluate the HAWQS model performance. EPA will provide basic information on the location or watersheds, scale of the work to be conducted, the volume of nutrients removed or managed, and acreage effected. If insufficient information is available on the effectiveness (efficiency) of the selected controls to reduce nutrients, the contractor will be expected to conduct a brief literature search and determine the most appropriate values to use.

EPA will also specify which watersheds are to be modeled and the scale of the work. Other primary input data for the modeling will be supplied by the existing HAWQS databases which the contractor will have access to.

The contractor will set up the HAWQS model, run each scenario and analyze the results of each run. If necessary, the contractor will customize the model outside of the standard user interface to simulate the scenario that EPA needs.

After the modeling is completed, changes in-stream pollutant concentrations should be evaluated and the contractor will then report them to EPA. The results which may include graphics, maps, and any statistical analysis determined necessary.

In addition to following basic QA processes and good modeling practices, the contractor will also be expected to collect basic information on the execution of the model such as the run times for each scenario and document any problems encountered. Although, the primary focus of this work is to evaluate using HAWQS for selected nutrient management scenarios, the contractor should also report any technical difficulties they may encounter while conducting the modeling and may be asked for suggestions to modify, fix, or improve software performance or user friendliness.

Deliverables and schedule under Task 3

3a. Draft deliverables and due no more than two weeks after completion of the analysis unless modified by written technical direction.

3b. Final deliverables are due 15 days after receiving the final comments or edits from EPA unless modified by written technical direction.

Task 4 - Provide Technical Support for Environmental Assessment

The contractor shall, provide technical support related to the environmental assessment issues associated with the water quality modeling. Such support may include responding to management questions, preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). The contractors may also be directed to participate in and/or conduct briefings, provide technical review of materials and assist Agency staff in their analyses. The contractor shall prepare draft deliverable material for EPA WAM review and approval.

Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WAM's comments.

Deliverables and schedule under Task 4

4a. Draft deliverables and due dates TBD listed or modified by written technical direction.

4b. Final deliverable due dates listed or modified by written technical direction.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

0-13

☐ Other ☐ Amendment Number:

Contract Number

EP-C-13-039

Contract Period 09/11/2013 To 07/31/2014

Base ☒ Option Period Number

Title of Work Assignment/SF Site Name

Non Remote AK Seafood

Contractor

ABT ASSOCIATES INC.

Specify Section and paragraph of Contract SOW

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/12/2013 To 07/31/2014

Comments:

LOE for this effort is expected to be 230 hours



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE: 0

09/11/2013 To 07/31/2014

This Action:

230

Total:

230

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Wendy Hoffman

Branch/Mail Code:

Phone Number 202-564-8794

FAX Number: 202-566-1053

(Signature)

(Date)

Project Officer Name Ahmar Siddiqui

Branch/Mail Code:

Phone Number: 202-566-1044

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Robert A. Knecht

Branch/Mail Code:

Phone Number: 513-487-2043

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 0-13 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-C-13-039		Contract Period 09/11/2013 To 07/31/2014 Base <input checked="" type="checkbox"/> Option Period Number	
Contractor ABT ASSOCIATES INC.		Title of Work Assignment/SF Site Name Non Remote AK Seafood	
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/12/2013 To 07/31/2014	
Comments: LOE for this effort is expected to be 230 hours			
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund			
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.			
SFO (Max 2) <input type="checkbox"/>			
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)
			Budget Org/Code (Max 7)
			Program Element (Max 9)
			Object Class (Max 4)
			Amount (Dollars)
			(Cents)
			Site/Project (Max 8)
			Cost Org/Code (Max 7)
1			
2			
3			
4			
5			
Authorized Work Assignment Ceiling			
Contract Period:		Cost/Fee:	LOE: 0
09/11/2013 To 07/31/2014			
This Action:			230
Total:			230
Work Plan / Cost Estimate Approvals			
Contractor WP Dated:		Cost/Fee:	LOE:
Cumulative Approved:		Cost/Fee:	LOE:
Work Assignment Manager Name Wendy Hoffman		Branch/Mail Code:	
		Phone Number 202-564-8794	
		FAX Number: 202-566-1053	
(Signature) _____ (Date) _____		Branch/Mail Code:	
Project Officer Name Ahmar Siddiqui		Phone Number: 202-566-1044	
		FAX Number:	
(Signature) _____ (Date) _____		Branch/Mail Code:	
Other Agency Official Name		Phone Number:	
		FAX Number:	
(Signature) _____ (Date) _____		Branch/Mail Code:	
Contracting Official Name Robert A. Knecht		Phone Number: 513-487-2043	
		FAX Number:	
(Signature) _____ (Date) _____			

Contract: EP-C-13-039

Work Assignment: 0-13

I. Title: Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors

II. Contractor No: EP-C-13-039

III. Work Assignment Number: 0-13

IV. Estimated Period of Performance: upon issuance to **July 31, 2014**

V. Key EPA Personnel:

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VI. Background and Purpose:

In 1980, EPA received an industry petition for suspension of effluent guideline regulations applicable to seafood processors in “non-remote” locations in Alaska, and a petition for changes in the regulations by rulemaking. In a Federal Register notice dated January 20, 1981, EPA published a proposed response which denied the first petition and maintained the status of four of five locations (Anchorage, Cordova, Ketchikan and Petersburg) as “non-remote” processing centers. The proposed response granted the petition for Juneau, thus changing the status of that location to “remote.” The proposed response also indicated the earlier suspension of the regulations would remain in effect until EPA issued a final response to the petition. The Agency never completed a final response to this petition.

In 2010, EPA began the process leading to a final decision to amend the regulations. The Agency sent questionnaires to owners and operators of seafood processing facilities in Anchorage, Cordova, Juneau, Petersburg, Dutch Harbor, Ketchikan and the Kenai Peninsula. Supporting analyses were conducted to update the 1981 proposal. EPA has published information it gathered recently from the questionnaires and other publicly available sources. These data relate to the Alaskan seafood subcategories of the Seafood Processing Effluent Guidelines at 40 CFR Part 408. In a Notice of Data Availability (NODA) EPA published in the Federal Register on Nov. 7, 2013, EPA provided preliminary results of analyses of the updated data and indications of how these results might be reflected in revised regulations which EPA may promulgate as its final response to the industry petitions. In particular, the NODA indicated that EPA may reinstate the originally promulgated ELGs for all non-remote locations based on screening technology. EPA also solicited comments on possibly extending the definition of non-remote to additional locations, including Dutch Harbor, Sitka, the Kenai Peninsula, and possibly others that have similar characteristics such as Naknek.

Under this work assignment, the contractor shall provide technical support to EPA in completing its response to the industry petitions. This support includes preparing responses to the comments EPA received on economic issues in the recently published NODA, and updating economic analyses prepared by a different contractor under Contract 68-C-02-095, with any financial data EPA may receive during the public comment period. The EPA WAM will provide the contractor with all documents prepared under Contract 68-C-02-095 that the contractor will need to conduct work under this work assignment.

The contractor shall develop a Quality Assurance Project Plan (QAPP) for the work assignment. The QAPP documents how quality assurance and quality control will be applied to the collection and use of environmental and economic data under this work assignment.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. The contractor shall adhere to EPA’s CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose

any CBI to anyone other than EPA without prior written approval provided by the EPA WAM. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be identified clearly as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor will incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM.

Quick Response: Under this Performance Work Statement, the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working calendar days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in hard copy and in electronic form using Word and/or Excel/Access or, in special cases, another software program agreed to in advance by EPA. For deliverables that are in Word or pdf versions of Word documents, and that are intended to be shared with EPA management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether or not decimal places are reported. All final materials, e.g., memos, comment response essays, chapters, etc. are to be prepared only after receiving written technical direction provided by the EPA WAM.

Monthly Progress Reports: The monthly progress reports shall include reporting hours and funds spent under this WA on a task-by-task basis. The contractor shall provide reporting of hours and funds on a task-by-task basis.

VIII. Performance Work Statement

The EPA WAM will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WAM's comments.

Task 1 - Prepare Workplan

The contractor shall prepare a workplan within 15 calendar days after receipt of work assignment signed by the Contracting Officer. The workplan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WAM, the PO and the CO will review the workplan. However, only the CO can approve/disapprove, suggest revisions, or change the workplan. Official revisions will be given to the contractor by the Contracting Officer. The contractor shall prepare a revised workplan incorporating the Contracting Officer's comments, if required.

Deliverables and schedule under Task 1

1. Workplan within 15 calendar days after receipt of work assignment.

Task 2 – Prepare Quality Assurance Project Plan

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work.

2.1 Background

EPA policy requires that an *approved* Quality Assurance Project Plan (QAPP) be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data.

Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it

will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data). The QAPP shall provide enough detail to clearly describe the:

- Objectives of all work assignment tasks that involve environmental data operations
- Type of data to be collected, generated, or used under these tasks to support the project objectives— including search engines, federal databases, EPA data bases— as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- Quality objectives needed to ensure the data will support the project objectives; and
- QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

The contractor shall prepare a QAPP that addresses these areas and submit it to EPA for approval within 15 days after submittal of the work plan. **Table 1** at the end of this QA task identifies elements applicable to QAPPs for Existing Data Projects. The contractor shall address each element in Table 1 that is applicable to the environmental data operations performed under this work assignment.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0) requires published Agency reports containing environmental data to be accompanied by a readily-identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a

knowledgeable reader to determine whether the technical and quality goals were met for the intended use of the data.

In support of this Agency requirement, all major deliverables produced by the contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine whether the QA/QC strategies designed and implemented for the project sufficiently support the intended use of the data. For example, a Costs and Impact Analysis or Economic Profile must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 QAPP Schedule

Within 15 days after submittal of the work plan, the contractor shall prepare and submit a QAPP that addresses the specific areas identified in Table 1.

- All activities performed under this work assignment prior to submission and approval of the QAPP must comply with the QA/QC strategies documented with the Contractor's approved PQAPP (if applicable).
- EPA will review the QAPP and provide the contractor with written approval or comments within 15 days of receiving the contractor's submission.
- The contractor shall review EPA comments, and revise the QAPP to reflect those comments within 10 days of receipt, unless otherwise instructed by the EPA WAM.
- If the QAPP is not fully approved (signed) within 50 days after submission of the Contractor's work plan, the contractor must stop performing any activities that involve gathering, evaluating, analyzing, and otherwise using existing environmental data, unless explicit written permission to continue doing so is provided by the EPA WAM.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The contractor may claim information in QAPPs as confidential; if the contractor chooses to do so, the contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractor should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WAM, the contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WAM shall notify the contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements, all major deliverables produced by the contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, an updated economic analysis must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

QA Project Plan Requirements

EPA policy requires that an approved QAPP be in place for work that involves the collection, generation, evaluation, analysis or use of primary environmental data. The QAPP defines and documents how specific data generation and collection activities shall be planned, implemented, and assessed during a particular project. Order CIO 2105.0 requires that the quality system require quality assurance project plans or "equivalent documents" for all projects and tasks involving secondary environmental data. These data collection activities need not be documented in a format as formal as a quality assurance project plan. The traditional quality assurance project plan requirements are clearly designed to address primary data collection activities and may not adequately address secondary data. The Office of Water quality system explicitly provides for a graded approach to the documentation of environmental data activities under a QAPP or equivalent document.

To ensure that all data and information collection activities performed under this work assignment are compliant with EPA's quality system requirements, the contractor shall continue to adhere to the approved QAPP when generating, collecting and determining the use of data and information for any applicable task under this work assignment.

Deliverables and schedule under Task 2

- 2.a. QAPP due within 15 days after submittal of the work plan.
- 2.b. Revision of the updated QAPP based on comments received from the EPA WAM, due within 10 days of receipt of EPA comments on draft QAPP.
- 2.c. Monthly reports of QA work performed (may be included in the contractor's monthly progress report.)

Task 3 - Adherence to the Standardized Naming Convention and Version Control

The contractor shall adhere to the EPA WAM approved standardized naming convention and version control (SNCVC) plan which was developed under the Construction and Development WA 0-01 of Contract EP-C-07-023 (WA0-01_T1_SNCVC_08.31.07_V1.pdf). The contractor shall use this standardized convention for all deliverables associated with this work assignment.

Task 4 – Economic Cost and Impact Analytical Support

Under this task, the contractor shall update the *Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)* prepared under Contract 68-C-02-095 by a previous contractor, with any new data or relevant information submitted to EPA during the public comment period. The contractor shall follow the same analytical methodologies used in the current version of the report and shall update both the CBI and non-CBI versions of the report. The EPA WAM will provide the current CBI and non-CBI versions of the report and all other relevant support documents needed to prepare the updated report.

The contractor shall also update other sections of the report as determined by the EPA WAM, based on written technical direction from the EPA WAM. The EPA WAM will provide any relevant materials to the contractor for these additional updated sections.

The draft final report shall be provided to the EPA WAM for an initial review. Once the EPA WAM completes the initial review of the draft final report and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the final report. All comments will be provided to the contractor through written technical direction by the EPA WAM. There will be three significant revisions. After each significant revision, the contractor shall submit draft materials to the EPA WAM for review. The contractor shall include a description of the QA measures taken in completing this task.

The contractor shall also update the draft, *Report to the Record Economic Profile of the Alaska Seafood Processing Industry*, as directed by written technical direction from the EPA WAM. The draft final report shall be submitted to the EPA WAM for an initial review. Once the EPA WAM completes the initial review of the draft final report and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the final report. All comments will be provided to the contractor through written technical direction by the EPA WAM. There will be three significant revisions. After significant revision, the contractor shall

submit draft materials to the EPA WAM for review. The contractor shall include a description of the QA measures taken in completing this task.

Deliverables and schedule under Task 4

4.a. Draft updated sections of the *Costs and Impacts Analysis* report are due 20 days after receipt of written technical direction from the EPA WAM.

4.b. Draft of the final *Costs and Impact Analysis* report is due June 2, 2014. Each significant revision is due three calendar days after receipt of written technical direction from the EPA WAM.

4.c. Final *Costs and Impact Analysis* report is due June 30, 2014.

4.d. Draft updated sections of the *Economic Profile* report are due 20 days after receipt of written technical direction from the EPA WAM.

4.e. Draft of the final *Economic Profile* report is due June 2, 2014. Each significant revision is due three calendar days after receipt of written technical direction from the EPA WAM.

4.f. Final *Economic Profile* report is due June 30, 2014.

Task 5 – Provide Technical Support for Rulemaking Activities

The contractor shall provide technical support related to economic cost and impacts assessment activities associated with the final petition response. This support may include responding to management questions about economic issues and preparing briefing and meeting materials, which may include, but are not limited to, short briefing documents and PowerPoint presentations. Examples of this support includes developing economic impacts slides and “one-pagers” and/or writing a briefing document on the principal findings of the non-CBI version of the *Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)*. The contractor may also be directed to participate in and/or conduct briefings, provided support in the review of analyses conducted by EPA and its contractors, provide technical review of materials prepared for the rulemaking by Agency staff, provided support in responding to public comments on the NODA, provide other technical support to address decisions made during Inter-Agency review for the final petition response, and provide support in the development of the rulemaking record.

The rulemaking record largely has been completed under the previous Contract 68-C-02-095. However, under the current WA, the contractor may be required to perform activities including assembling and uploading rulemaking docket materials, and archiving rulemaking project files. The contractor may also be directed to provided support with the preparation of briefing materials, provide support in the review of analyses conducted by EPA and its contractors, and provide technical review of materials prepared for the rulemaking by Agency staff. EPA expects the number of projects to be between five and seven. For the purpose of costing, the contractor should assume that three of these requests will require quick responses.

The contractor shall prepare draft materials, including comment responses, for the EPA WAM to review. Once the EPA WAM reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials

incorporating the EPA WAM's comments. Work under this task shall not duplicate any work performed under any other task of this WA.

Deliverables and schedule under Task 5

Task 5a. Draft deliverables, with the exception of response to comment drafts, due within 10 calendar days after receipt of written technical direction provided by the WAM. Response to comment drafts due 20 calendar days after receipt of written technical direction provided by the WAM.

Task 5b. All final deliverables due within two weeks after the contractor receives comments provided by the EPA WAM, by written technical direction.

SCHEDULE OF DELIVERABLES

Task	Deliverable	Delivery Schedule
Task 1 – Prepare Workplan		
1	Prepare workplan	Due within 15 calendar days after WA receipt.
Task 2 - Adherence to the Quality Assurance Project Plan		
2.a	QAPP	Due within 15 days after submittal of the work plan.
2.b	Revision of the QAPP based on comments received from the EPA WAM.	Due within 10 days of receipt of EPA comments on draft QAPP
2.c	Monthly reports of QA work performed	May be included in monthly progress reports.
Task 3 - Adherence to the Standardized Naming Convention and Version Control (SNCVC)		
3.1a	Adhere to SNCVC memorandum	No deliverable under this Task.
Task 4– Economic Cost and Impact Analytical Support		
4.a	Draft updated sections of the “Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)”.	Deliverables due within 20 calendar days after receipt of written technical direction from the EPA WAM.
4.b	Draft of the final “Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)”.	Each significant revision is due three calendar days after receipt of written technical direction from the EPA WAM. Final draft report deliverable due June 2, 2014.

4.c	Final "Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)".	Final deliverable due June 30, 2014.
4.d	Draft updated sections of the "Report to the Record Economic Profile of the Alaska Seafood Processing Industry."	Deliverables due within 20 calendar days after receipt of written technical direction from the EPA WAM.
4.e	Draft of the final "Report to the Record Economic Profile of the Alaska Seafood Processing Industry."	Each significant revision is due three calendar days after receipt of written technical direction from the EPA WAM. Final report deliverable due June 2, 2014.
4.f	Final "Report to the Record Economic Profile of the Alaska Seafood Processing Industry."	Final deliverable due June 30, 2014.
Task 5 – Draft technical support with rulemaking activities		
5.1	Draft technical support activities.	Draft deliverables due within 10 calendar days after receipt of written technical direction provided by the EPA WAM. Examples of deliverables include developing draft response to comments essays, preparing economic slides and "one-pagers" and/or writing a briefing document on the principal findings of the non-CBI version of the "Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)".
5.2	Final technical support with rulemaking activities	Final deliverables due within two weeks after receipt of comments provided by the EPA WAM.

Table 1. Checklist for Preparing a QAPP Using Existing Data

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
A1. Title & Approval Sheet			
Project title	X		
Organization's name	X		
Effective date and/or version identifier	X		
Dated signature of Organization's project manager	X		
Dated signature of Organization's QA manager	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		
Revision History	X		
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		
Organization chart shows lines of authority and reporting responsibilities	X		
Project QA manager position indicates independence from unit collecting/using data	X		
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X		
Identifies project objectives or goals	X		
Historical & background information	X		
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
A6. Project/Task Description			
List measurements to be made/data to obtain	X		
Notes special personnel or equipment requirements		X	
Provides work schedule	X		
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	X		
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements		X	Trained project staff is identified
Discusses how this training will be provided/the necessary skills will be assured and documented		X	No special training will be required for this WA.
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff		X	Contractor and EPA staffs are identified, not the process for distributing the approved QAPP
Identifies final work products that will result from the project	X		
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		In general terms
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)		X	
If project includes development or update of a project database, QAPP identifies and defines each database field		X	
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		
If literature searches are used, describes the search engines that will be used and key search terms		X	
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	X		
For other potential sources, describe the potential sources and rationale for considering or using each one		X	

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine whether the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		
Explains rating system used to evaluate source against each criterion	X		
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		In generic terms for key questionnaire responses. Applies only to possible financial data submitted as public comments.
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented	X		In generic terms for key questionnaire responses. Applies only to possible financial data submitted as public comments.
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, µg/L for chemical data), identifies the standard units that will be required for each data element	X		
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		
C3. Merging or Uploading Electronic Data from Existing Sources			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
Describes who will be responsible for access to and maintenance of the stored data	X		
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		
Describes how these determinations will be documented and reported	X		
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives	X		
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
Includes applicable calculations and equations (if known) or explanations of how they will be developed	X		
Includes plans for excluding outliers	X		
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X		

QAPP Element	To Be Addressed in QAPP	Not Applicable to Project	Explanatory Comments
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		
Describes how the results of this assessment will be documented	X		
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		